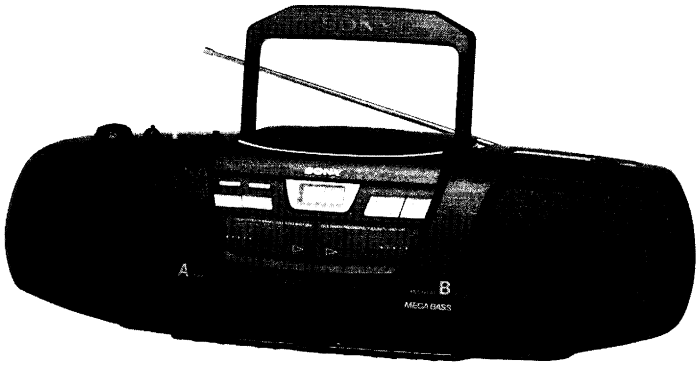
CFD-222

SERVICE MANUAL

US Model
Canadian Model

Ver. 1.2 2005.09



CD Section	Model Name Using Similar Mechanism	CFD-151
	CD Mechanism Type	KSM-213BAN
	Optical Pick-up Name	KSS-213B/K
TC Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	MF-W222

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US Model)

POWER OUTPUT AND TOTAL
HARMONIC DISTORTION

With 3.2-ohm loads, both channels driven from 150 -10,000 Hz; rated 2 W per channel minimum RMS power, with no more than 10 % total harmonic distortion in AC operation.

Other Specifications

CD player section

System
  Compact disc digital audio system
Laser diode properties
  Material: GaAlAs
  Wave length: 780 nm
  Emission duration: Continuous
  Laser output: Less than 44.6 µW
  (This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
  200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels
  2
Frequency response
  20 - 20,000 Hz +1/–2 dB
Wow and flutter
  Below measurable limit

Radio section

Frequency range
  FM: 87.6 - 108 MHz
  AM: 530 - 1,710 kHz
Aerials
  FM: Telescopic aerial
  AM: Built-in ferrite bar aerial

Cassette-corder section

Recording system
  4-track 2 channel stereo
Fast winding time
  Approx. 140 s (sec.) with Sony cassette C-60
Frequency response
  TYPE I (normal): 70 - 10,000 Hz

— Continued on next page —

CD RADIO CASSETTE-CORDER

9-923-038-13
2005I16-1
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Sony Corporation
Personal Audio Group
Published by Sony Engineering Corporation

SONY®

General

Speaker
Full range: 10 cm dia., 4 ohms, cone type (2)
Outputs
Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones
Power output (excluding US model)
3 W + 3 W (at 4 ohms, 10 % harmonic distortion)
Power requirements
120 V AC, 60 Hz
12 V DC, 8 size D (R20) batteries

Power consumption
AC 26 W
Battery life
For CD radio cassette-corder:

FM recording
Sony R20P: approx. 13.5 h
Sony alkaline LR20: approx. 19 h
Tape playback
Sony R20P: approx. 7.5 h
Sony alkaline LR20: approx. 12 h
CD playback
Sony R20P: approx. 2.5 h
Sony alkaline LR20: approx. 4.5 h

Dimensions
Approx. 580×164×250 mm (w/h/d)
(22 7/8 ×6 1/2 ×9 7/8 inches) (incl. projecting parts)
Mass
Approx. 5 kg (11 lb.) (incl. batteries)
Supplied accessory
AC power cord (1)

Design and specifications are subject to change without notice.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

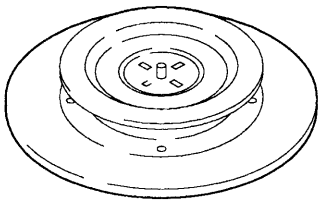
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

CHUCK PLATE JIG ON REPAIRING

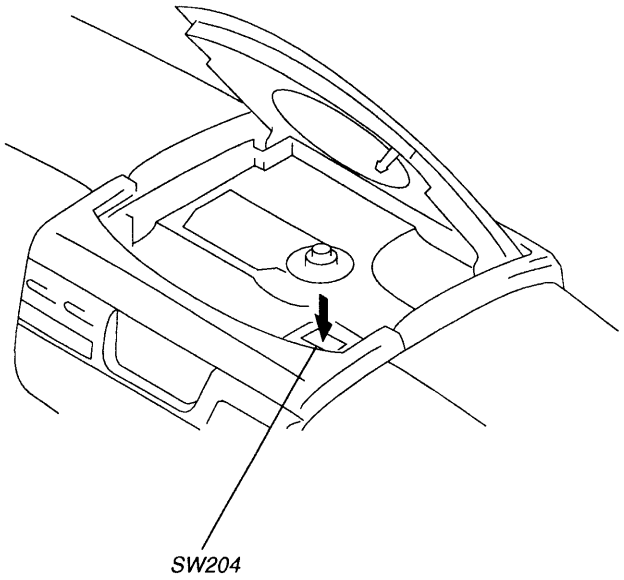
On repairing CD section, playing a disc without the CD lid, use Chuck Plate jig.

- Code number of Chuck Plate jig : X-4918-255-1



LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Open the lid for CD.
2. Push on PUSH SWITCH (SW204) as following figure.
3. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.



SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers).
Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

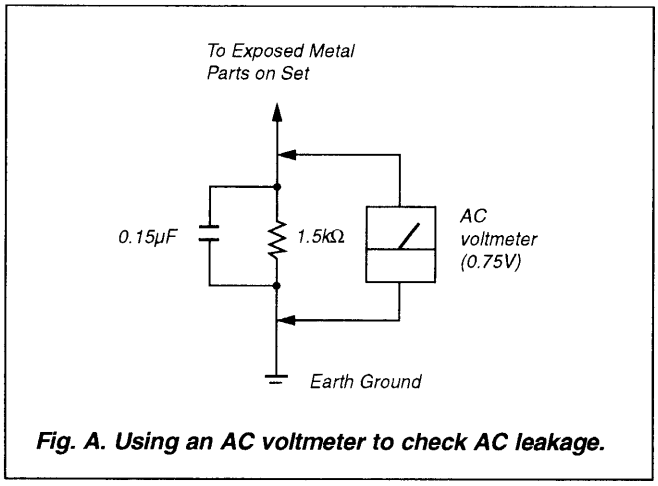


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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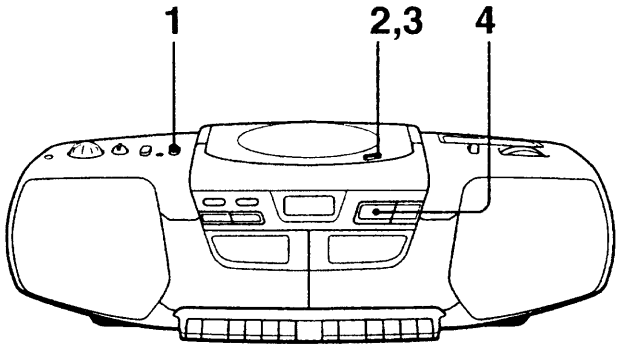
Playing a CD

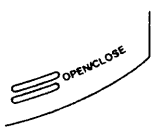


Connect the supplied AC power cord (see page 16).

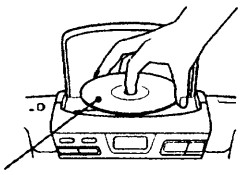
1

Set FUNCTION to CD.

2

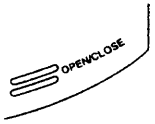


Press OPEN/CLOSE down to open the CD compartment and place the CD on the CD compartment.

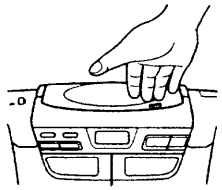


With the label side up

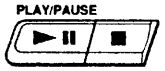
3



Close the CD compartment.



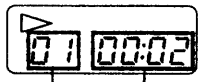
4



Press ▶II.

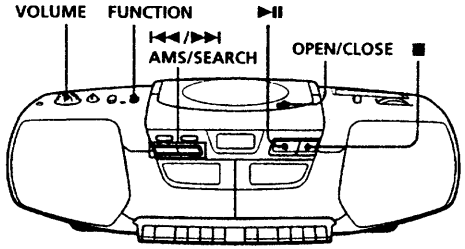
The player plays all the tracks once.

Display



Track number Playing time

Use these buttons for additional operations

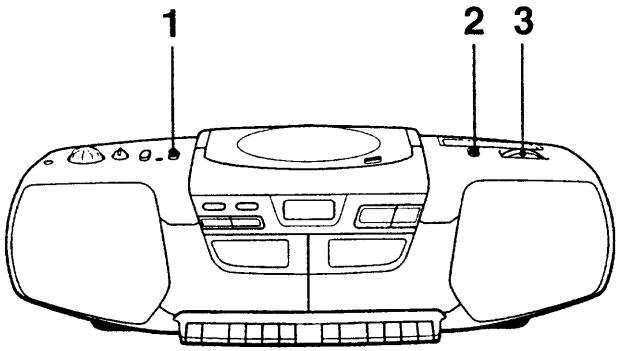


To	Do this
Adjust the volume	Turn VOLUME.
Stop playback	Press ■.
Pause playback	Press ▶II. Press again to resume play after pause.
Go to the next track	Press ▶▶I AMS/SEARCH.
Go back to the previous track	Press I◀◀ AMS/SEARCH.
Remove the CD	Press OPEN/CLOSE.
Turn off the player	Set FUNCTION to TAPE (CD/RADIO OFF).

SECTION 1
GENERAL

This section extracted from instruction manual.

Listening to the radio



Connect the supplied AC power cord (see page 16).

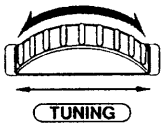
1

Set FUNCTION to RADIO.

2

Set BAND to FM or AM.

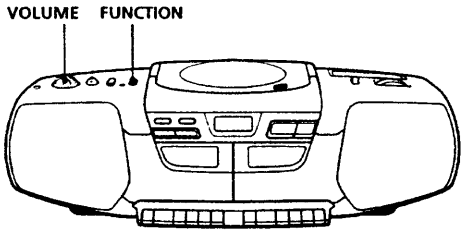
3



Turn TUNING to tune in a radio station.

If the received FM stereo is too weak, the reception becomes monaural.

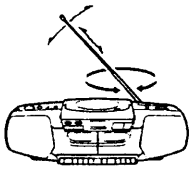
Use these buttons for additional operations



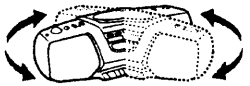
To	Do this
Adjust the volume	Turn VOLUME.
Turn off the radio	Set FUNCTION to TAPE (CD/RADIO OFF).

To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for AM.

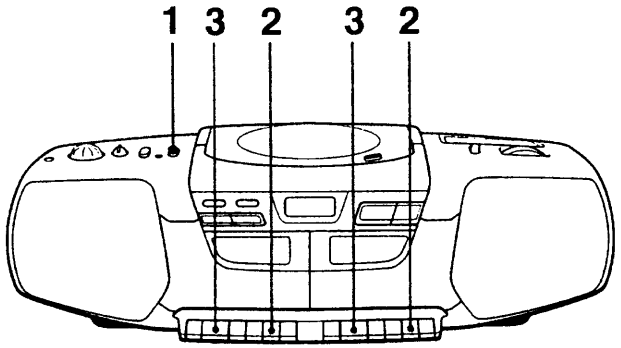


For FM



For AM

Playing a tape

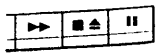


Connect the supplied AC power cord (see page 16).

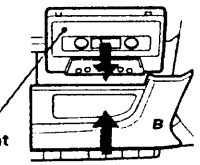
1

Set FUNCTION to TAPE(CD/RADIO OFF).

2

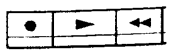


Press ■⏏ to open the tape compartment on deck A or deck B and insert a recorded tape. Use TYPE I (normal) tape only. Close the compartment.



With the side you want to play facing forward

3

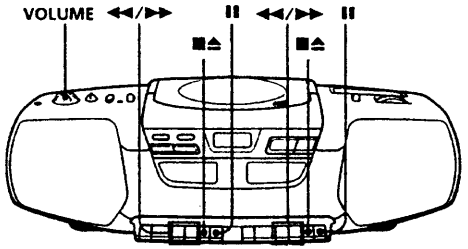


Press ►.

Note

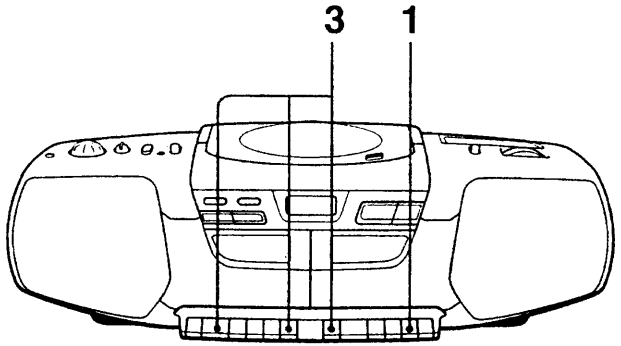
During playback, do not press buttons on the other deck. Otherwise the playback speed may change.

Use these buttons for additional operations



To	Do this
Adjust the volume	Turn VOLUME.
Stop playback	Press ■⏏
Fast-forward or rewind the tape	Press ►► or ◄◄
Pause playback	Press II. Press the button again to resume play after pause.
Eject the cassette	Press ■⏏.

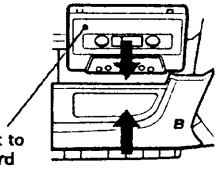
Recording on a tape



Connect the supplied AC power cord (see page 16).

1

Press ■⏏ to open the tape compartment on deck B and insert a blank tape. Use TYPE I (normal) tape only.



With the side you want to record on facing forward

2

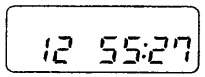
Select the program source you want to record.

To record from the CD player, set FUNCTION to CD and insert a CD (see page 4).

To record from the radio, set FUNCTION to RADIO, select the band, and tune in the station you want (see page 6).

To record from the tape, insert a recorded tape into deck A (see page 8) and set FUNCTION to DUBBING.

Display



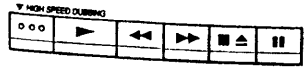
3

Deck B

Start recording.

To record from the CD player or the radio, press ● on deck B (► is depressed automatically.)

Deck A



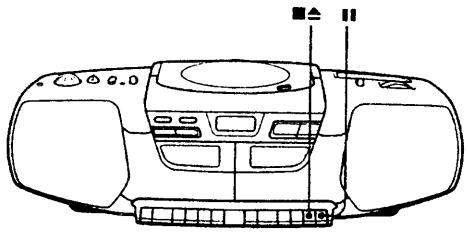
Deck B

To record from the tape, press ❚❚ and ► on deck A. (For high speed dubbing, press HIGH SPEED DUBBING instead.) Then press ● on deck B (► is depressed automatically).

Tips

- Adjusting the volume or the audio emphasis (see page 17) will not affect the recording level.
- For the best results, use the AC power as a power source for recording.
- If the AM program makes a whistling sound after you've pressed ● in step 3, set the ISS (Interference Suppress Switch) at the rear to the position that most decreases the noise. Normally set the switch to "2".
- To erase a recording, proceed as follows:
  1 Insert the tape whose recording you want to erase into the tape compartment on deck B.
  2 Set FUNCTION to TAPE (CD/RADIO OFF).
  3 Press ● on deck B.

Use these buttons for additional operations

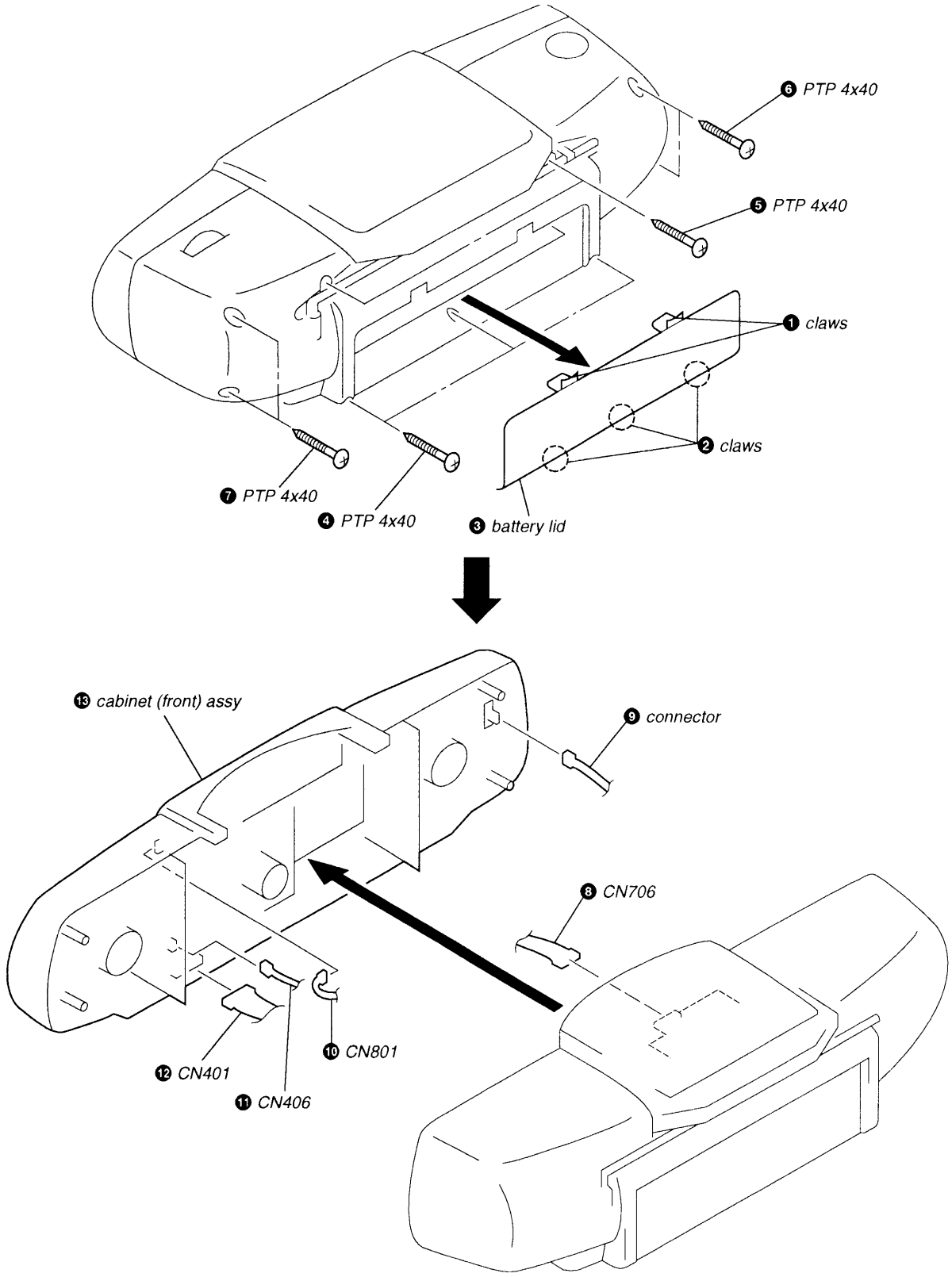


To	Press
Stop recording	■⏏ on deck B
Pause recording	❚❚ on deck B Press the button again to resume recording.

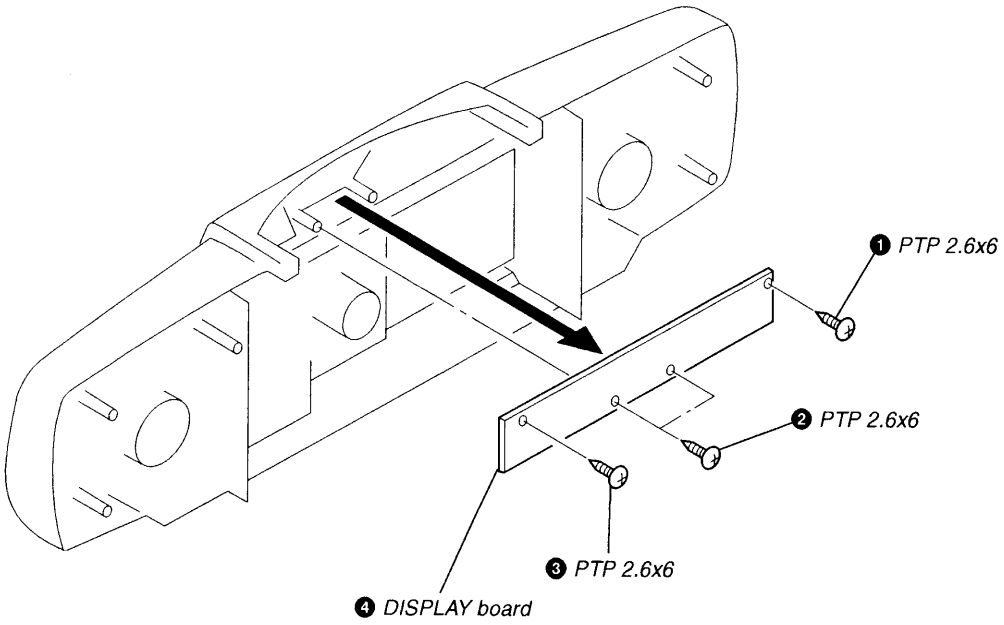
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order givin.

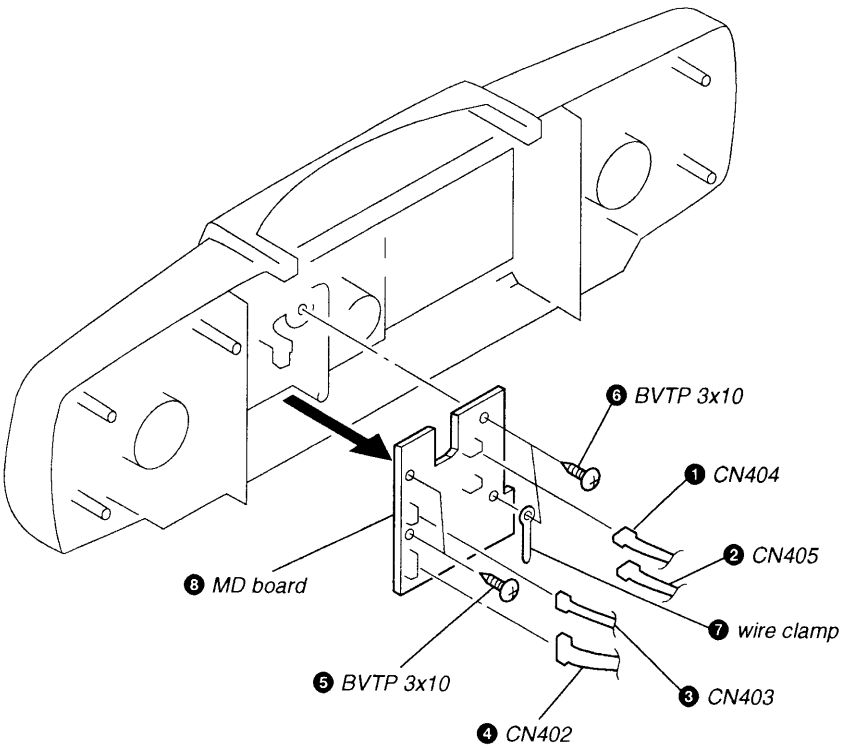
2-1. CABINET (FRONT) ASSY



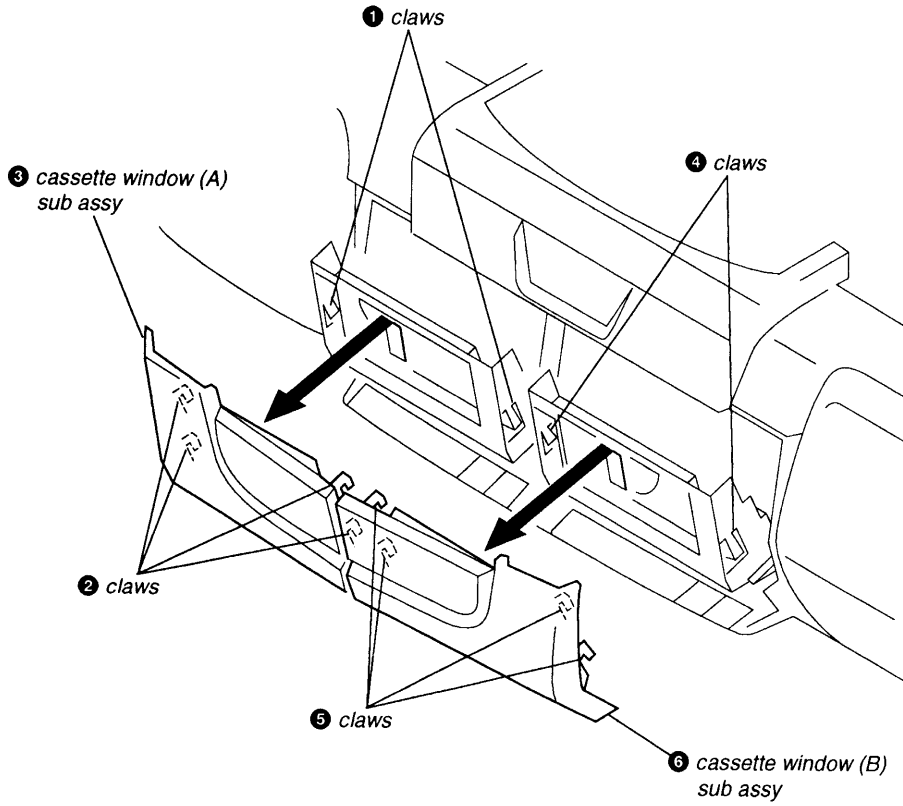
2-2. DISPLAY BOARD



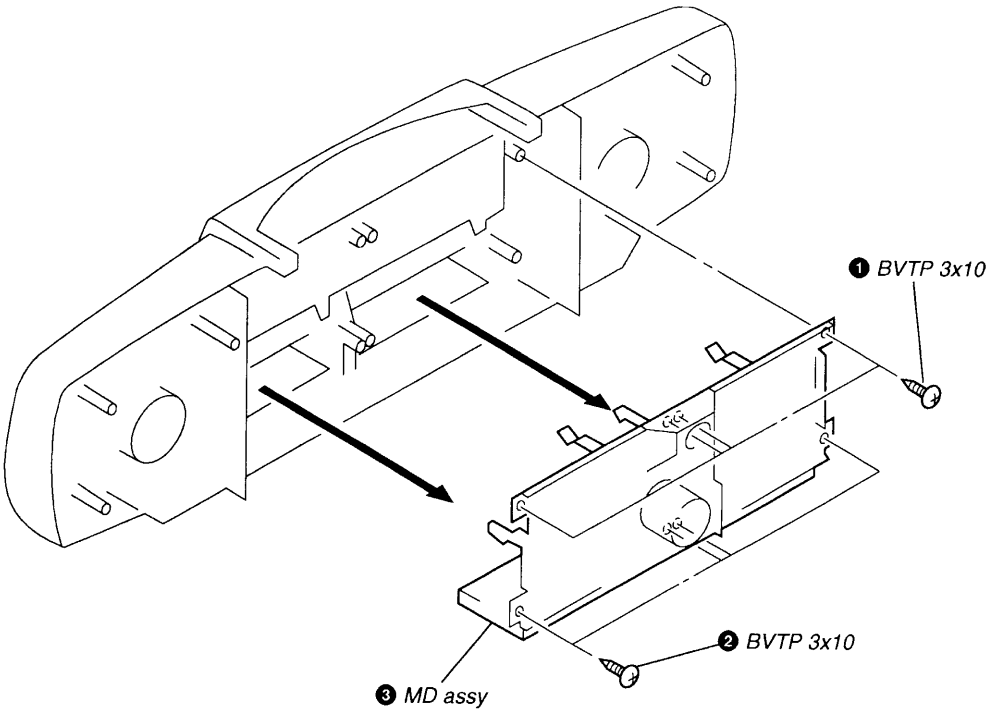
2-3. MD BOARD



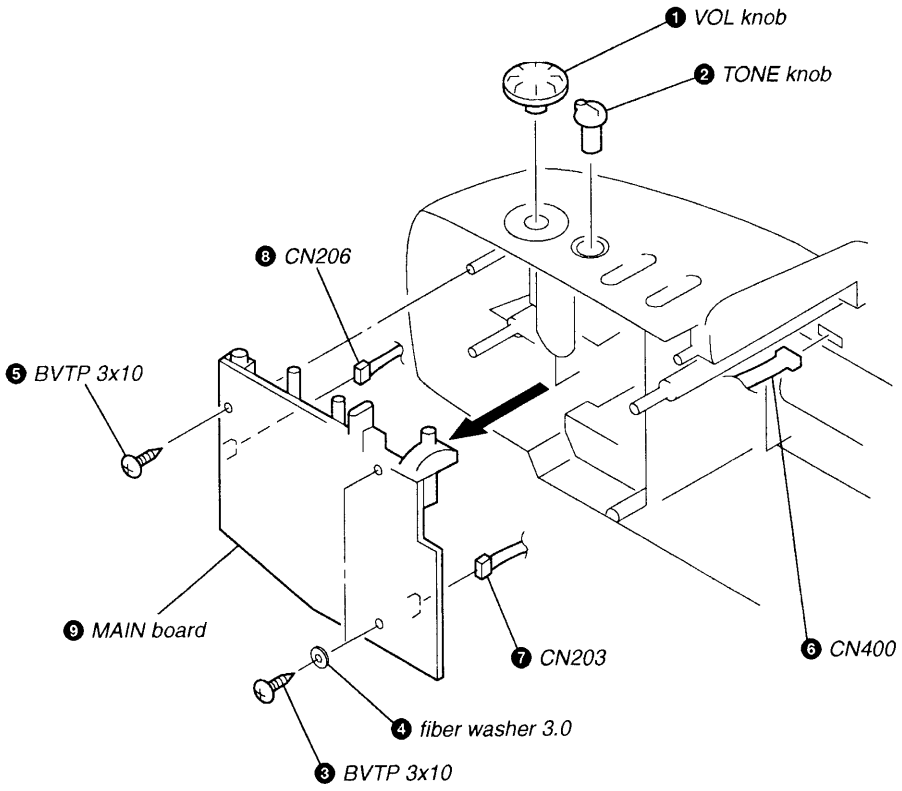
2-4. CASSETTE WINDOW



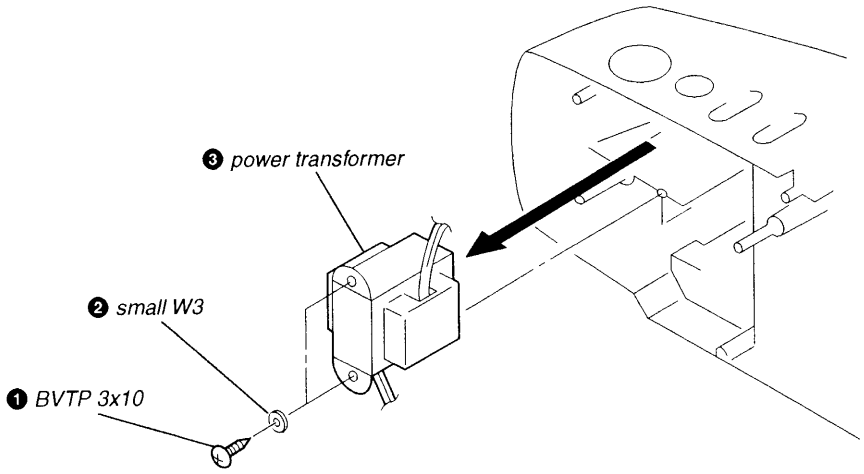
2-5. MD ASSY



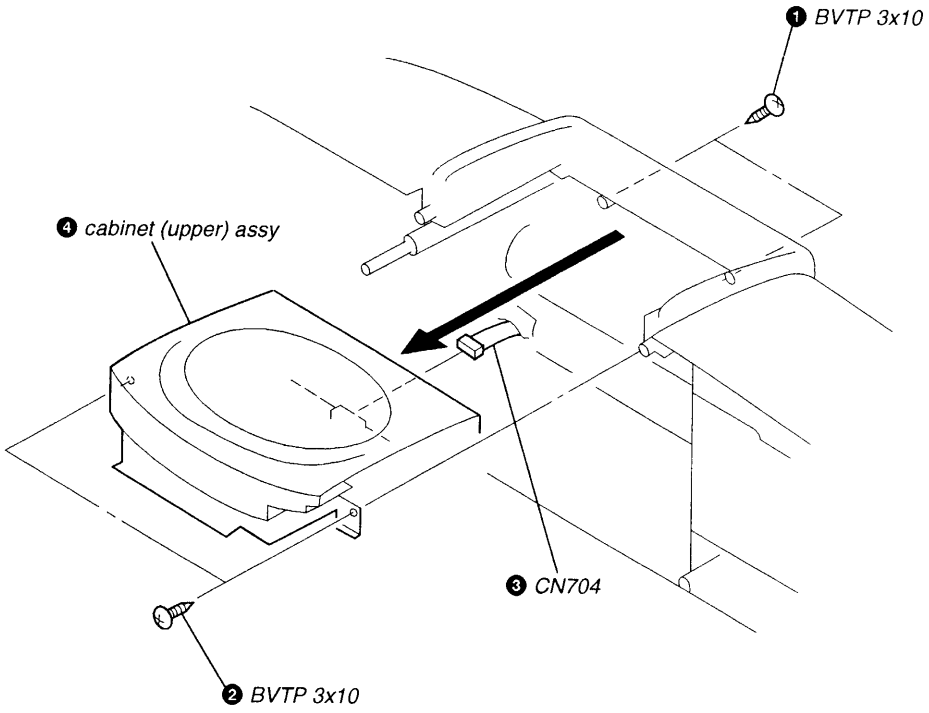
2-6. MAIN BOARD



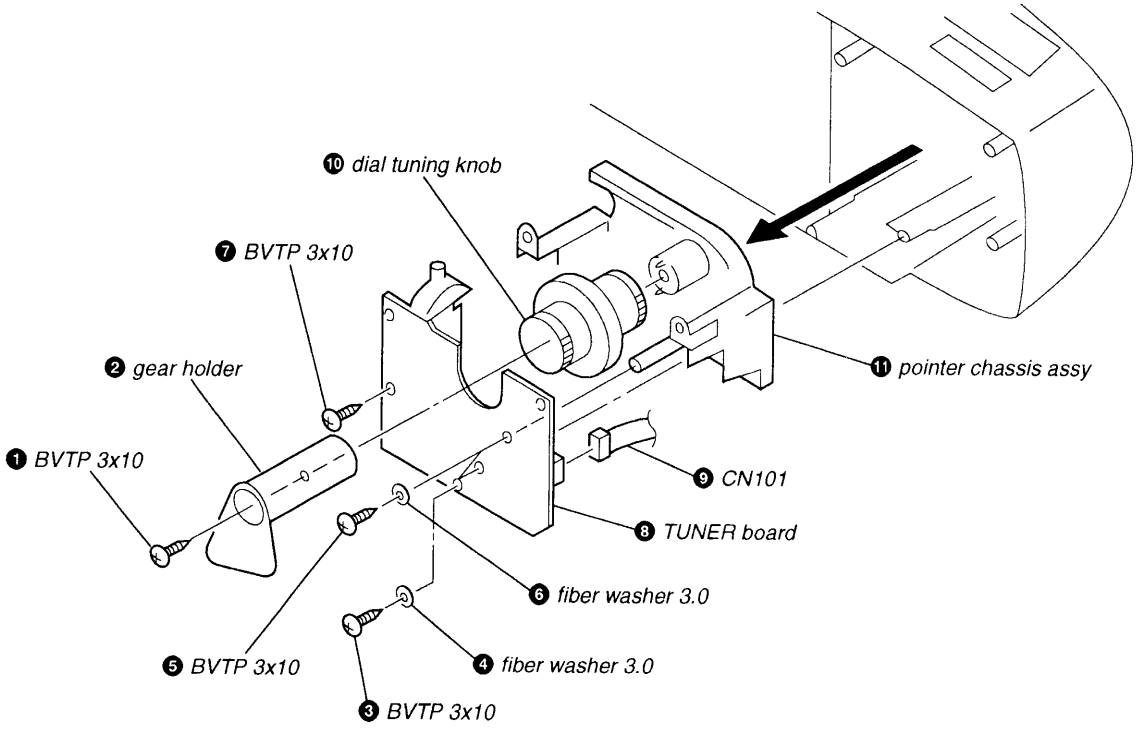
2-7. POWER TRANSFORMER



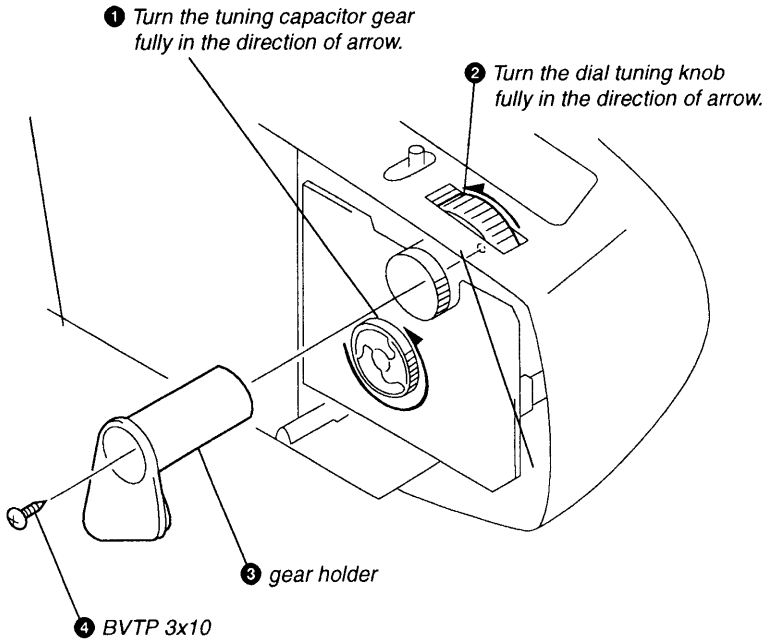
2-8. CABINET (UPPER) ASSY



2-9. TUNER BOARD



2-10. DIAL TUNING KNOB SETTING


❶ Turn the tuning capacitor gear fully in the direction of arrow.
❷ Turn the dial tuning knob fully in the direction of arrow.
❸ gear holder
❹ BVTP 3x10

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement DECK A DECK B

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30–75 g • cm (0.42–1.04 oz • inch)
FWD Back Tension	CQ-102C	1.5–6.0 g • cm (0.021–0.083 oz • inch)
FF	CQ-201B	50–130 g • cm (0.69–1.81 oz • inch)
REW	CQ-201B	50–130 g • cm (0.69–1.81 oz • inch)

Tape Tension Measurement DECK A DECK B

Mode	Tension meter	Meter Reading
FWD	CQ-403A	more than 100 g (more than 3.53 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

4-1. TAPE RECORDER SECTION 0 dB = 0.775 V

• Standard Output Level

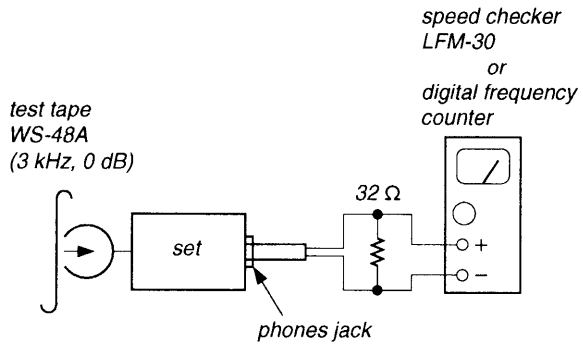
Output terminal	HP OUT
load impedance	32 Ω
output signal level	0.25 V (–10 dB)

• Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	tape speed adjustment
P-4-A063	6.3 kHz, –10 dB	head azimuth adjustment

Tape Speed Adjustment DECK A DECK B

Procedure :
Mode: playback

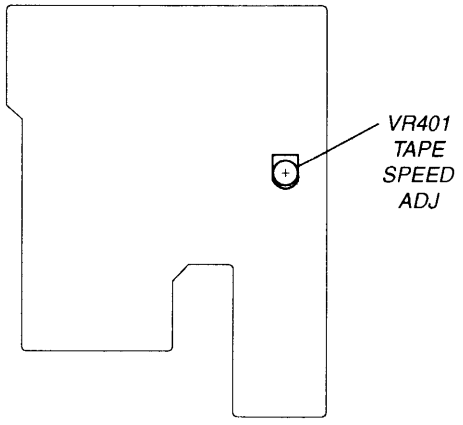


Adjustment Value : normal speed

Adjustment part	Speed checker	Digital frequency counter
VR401	–3 to + 3 %	2,910 to 3,090 Hz

Frequency difference between the beginning and the end of the tape should be within ± 1 % (30 Hz).

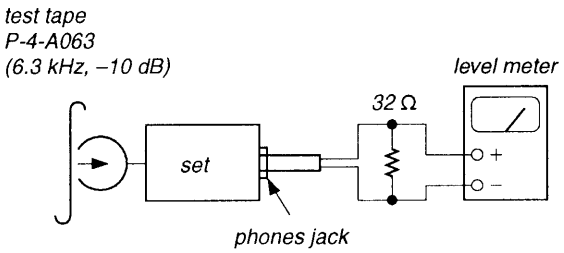
Adjustment Location: MD board (component side)



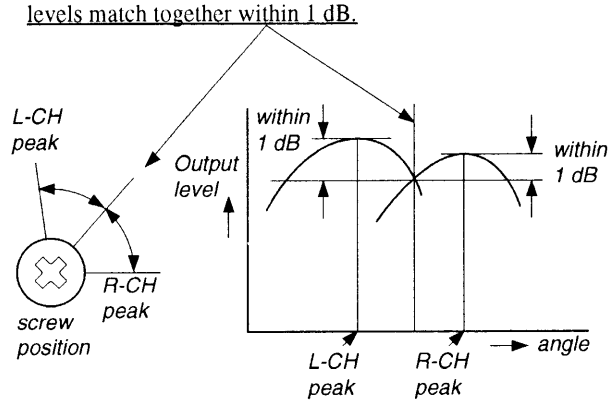
REC/PB Head Azimuth Adjustment DECK A DECK B

Procedure :

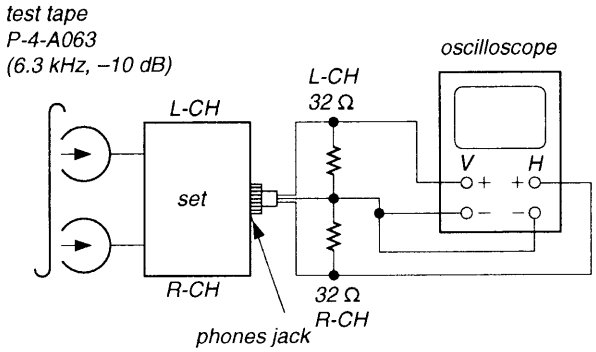
1. Mode : playback

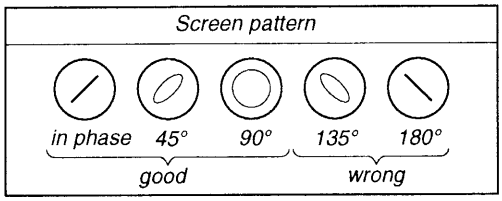


2. Turn the adjustment screw for the maximum output levels. If these levels do not match. Turn the adjustment screw until both of output levels match together within 1 dB.



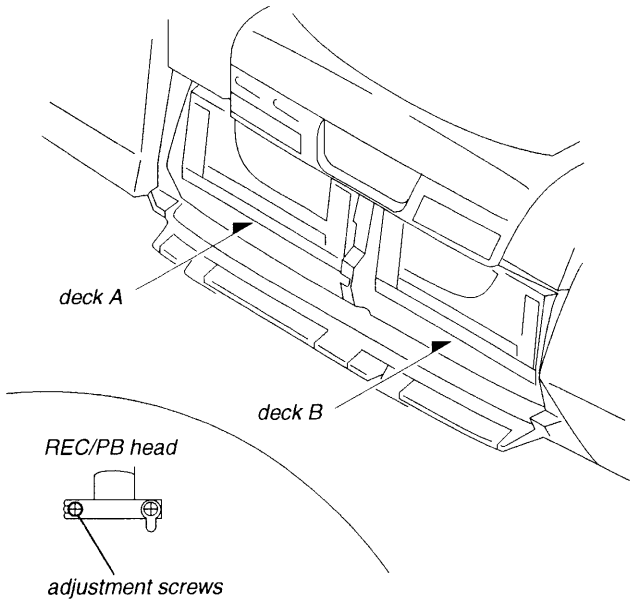
3. Phase Check
   Mode : playback





Note : Finish the screw adjustment with a turn in the clockwise direction.
After the adjustment, lock the adjustment screw.

Adjustment Location : REC/PB head (deck A, B)



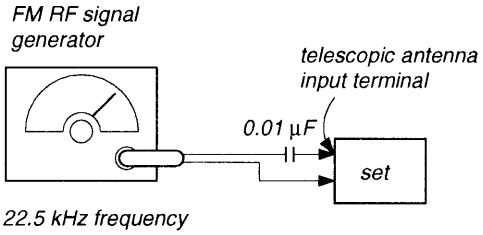
4-2. TUNER SECTION 0 dB = 1 µV

• FM Section

Setting :

FUNCTION switch : RADIO

BAND switch : FM



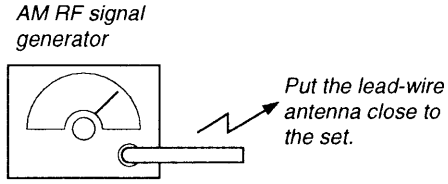
22.5 kHz frequency deviation by 400 Hz signal
Output level : as low as possible

• AM Section

Setting :

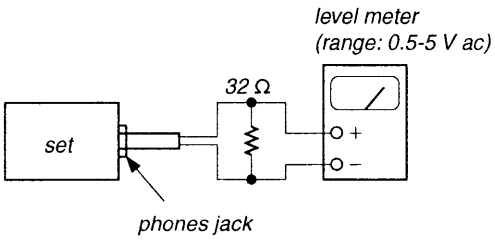
FUNCTION switch : RADIO

BAND switch : AM



30 % amplitude modulation by 400 Hz signal
Output level : as low as possible

• Connecting Level Meter (FM and AM)



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L103	CT101-1
86.5 MHz	109.5 MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L102	CT101-2
86.5 MHz	109.5 MHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L104	CT101-3
515 kHz	1,780 kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L101	CT101-4
600 kHz	1,400 kHz

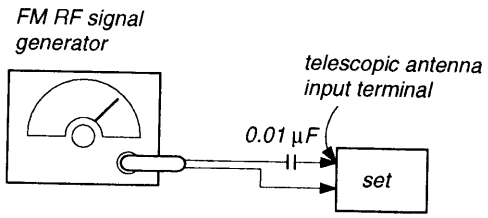
AM IF ADJUSTMENT
Adjust for a maximum reading on level meter.
T101
455 kHz

Adjustment Location : See page 18.

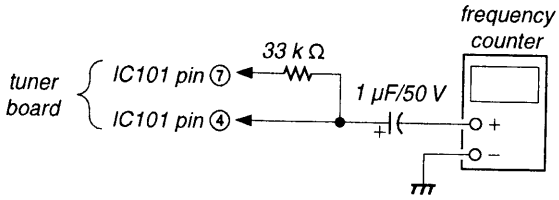
FM VCO Adjustment

Setting :

FUNCTION switch : RADIO
BAND switch : FM



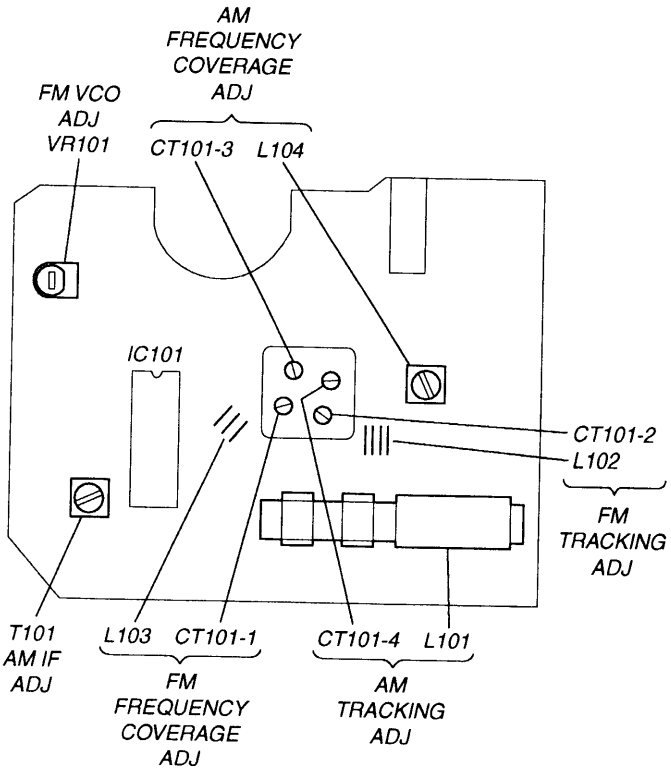
Carrier frequency : 98.0 MHz
Output level : 100 dB (0.1 V)
Mode : mono
Modulation : 400 Hz



Procedure :

1. Connect frequency counter between IC101 pin ⑦ and pin ④.
2. Tune the set to 98.0 MHz.
3. Adjust VR101 for 76.0 kHz ±500 Hz reading on the frequency counter.

Adjustment Location : tuner board (component side)



4-3. CD SECTION

Notes on Adjustment

1. Perform Traverse adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.
4. Short the both sides of R720 on the CD board for stop operation of anti-shock circuit. (See page 22.)

• Switch position
FUNCTION switch : CD

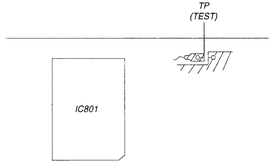
• In case of Test Mode

1. Short the solder bridge the TP (TEST) on the DISPLAY board.
2. Insert the AC power plug.

• Release the Test Mode

Release the shorted solder bridge the TP (TEST), the test mode is release.

– display board (conductor side) –



Before Adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

• Sled Motor Check

Press the ▶▶I, I◀◀ buttons and confirm that the optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
▶▶I : Optical pick-up moves to the outer circumference
I◀◀ : Optical pick-up moves to the inner circumference

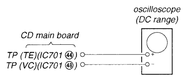
• Focus Search Check

1. Push the ▶II button. (Focus search operation is performed continuously.)
2. Look at the optical pick-up objective lens and confirm the it moves up and down smoothly, with no catching or abnormal noises.
3. Push the ■ button.
   Confirm that focus search operation stops. If it does not, push the ■ button again longer.

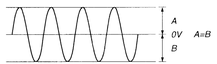
Traverse Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Procedure:



1. Connect the oscilloscope between TP (TE) and TP (VC).
2. Put the set into test mode.
3. Push the CD lid to open and insert disc (YEDS-18).
4. Close the CD lid.
5. Press the ▶▶I and I◀◀ buttons to move the optical pick-up to the center.
6. Push the ▶II button.
7. Push the ■ button.
8. Push the ▶II button.
9. Adjust RV703 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
10. Release test mode after adjustment is completed.

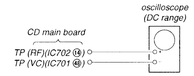


Adjustment Location : See page 22.

Focus Bias Adjustment

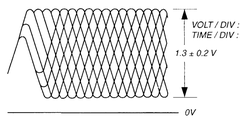
This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Connect the oscilloscope between TP (RF) and TP (VC).
2. Insert disc (YEDS-18) and push the ▶II button.
3. Adjust RV701 so that the oscilloscope waveform is maximum as shown in the figure below (eye pattern).

• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : See page 22.

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.
However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to machanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

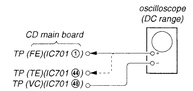
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for ■ →▶II on automatic selection. (I◀◀, ▶▶I buttons pressed.) (Normally, takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for II → ▶II or automatic selection. (I◀◀, ▶▶I buttons pressed.)	–	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

– Simple Adjustment –

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:

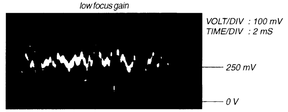


1. Keep the set horizontal.
   If the set not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
2. Insert disc (YEDS-18) and push the ▶II button.
3. Connect the oscilloscope between TP (FE) and TP (VC).
4. Adjustment RV702 so that the waveform is as shown in the figure below. (focus gain adjustment)

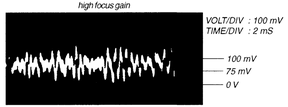
• Correct Example

• Incorrect Examples (DC level changes more than on adjusted waveform)

low focus gain



high focus gain

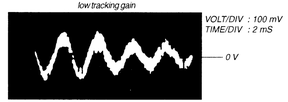


5. Connect the osilloscope between TP (TE) and TP (VC).
6. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)

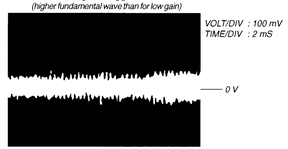
• Correct Example

• Incorrect Examples (fundamental wave appears)

low tracking gain

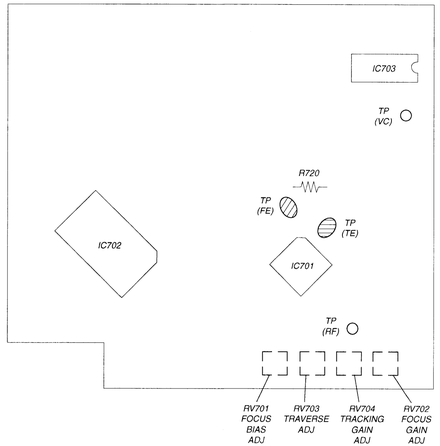


high tracking gain
(higher fundamental wave than for low gain)



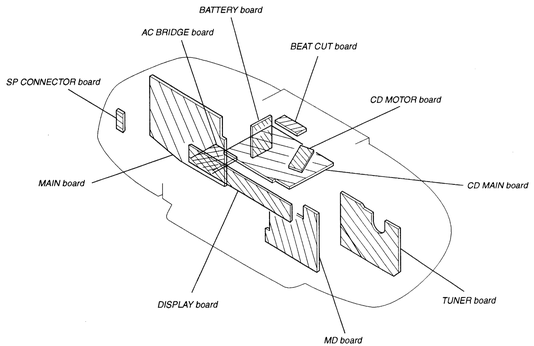
Adjustment Location : See page 22.

Adjustment Location : CD main board (conductor side)



SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION

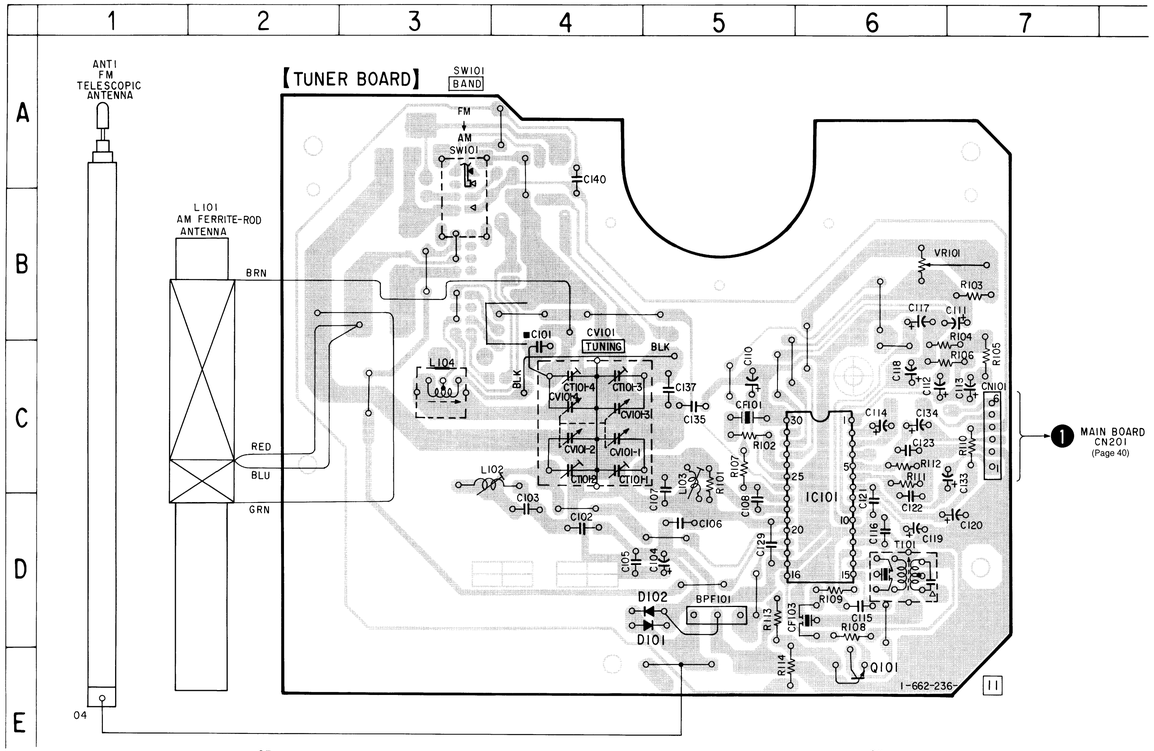


• Semiconductor Location

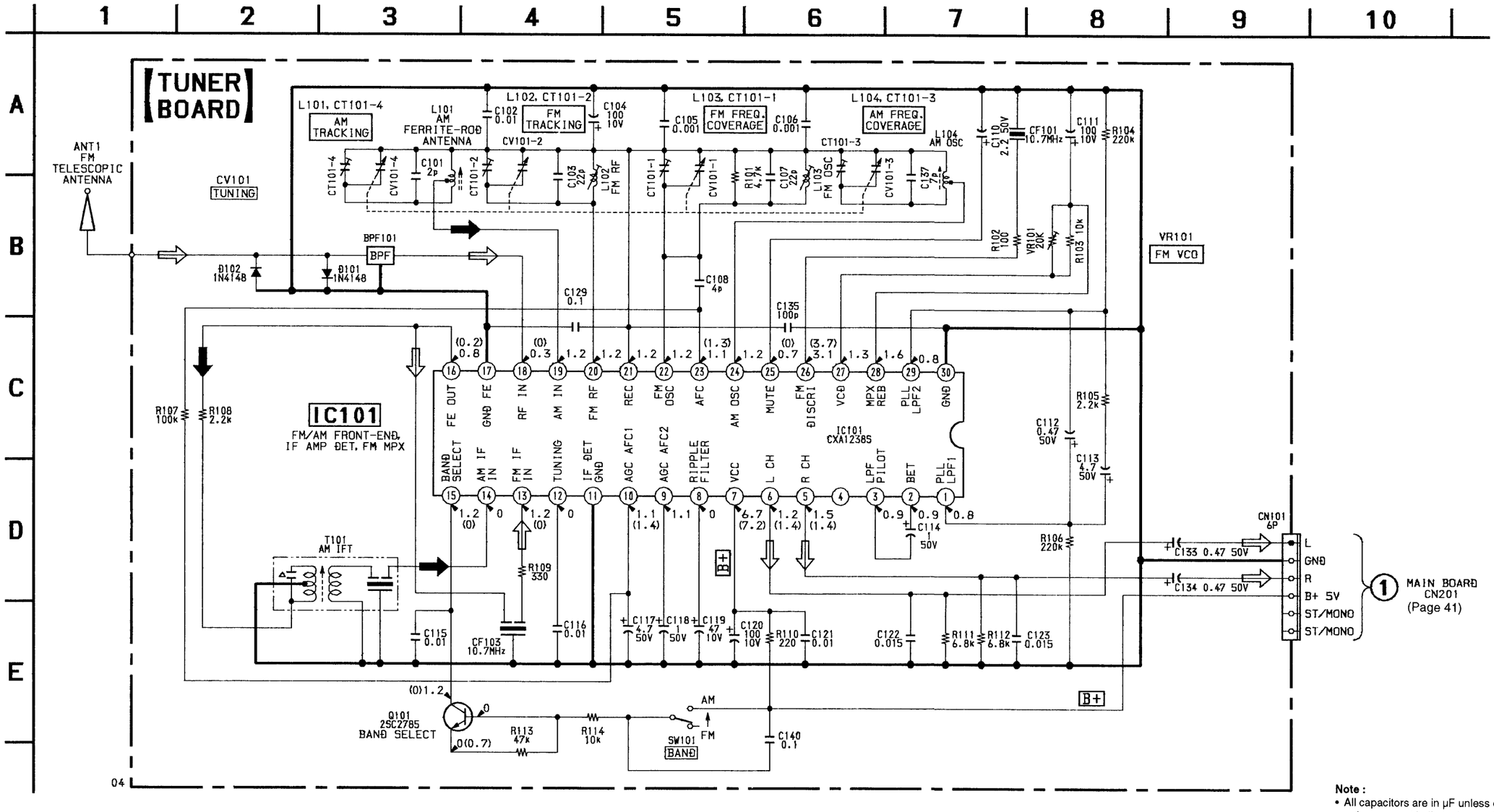
Ref. No.	Location
D101	D-5
D102	D-5
IC101	D-6
Q101	E-6

Note :
- ○— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ⊢ indicates side identified with part number.
- ▨ : Pattern on the side which is seen.

5-2. PRINTED WIRING BOARD — TUNER SECTION —



5-3. SCHEMATIC DIAGRAM — TUNER SECTION — • Refer to page 46 for IC Block Diagrams.



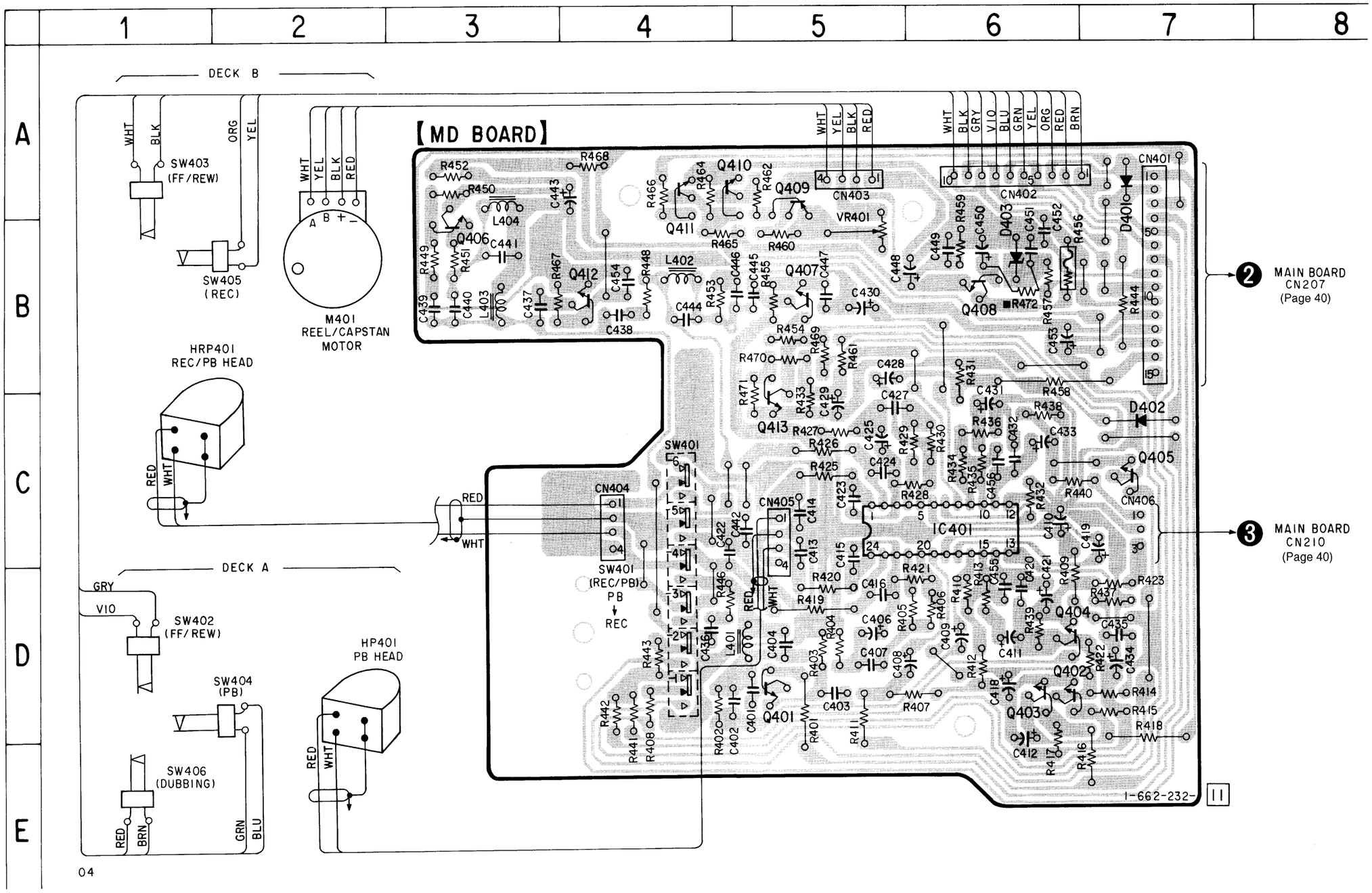
Note :

- All capacitors are in µF unless otherwise noted. pF : µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
  ( ) : AM
- Voltage are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerance.
- Signal path.
  ⇨ : FM
  ➡ : AM

5-4. PRINTED WIRING BOARD — MD SECTION —

• Semiconductor Location

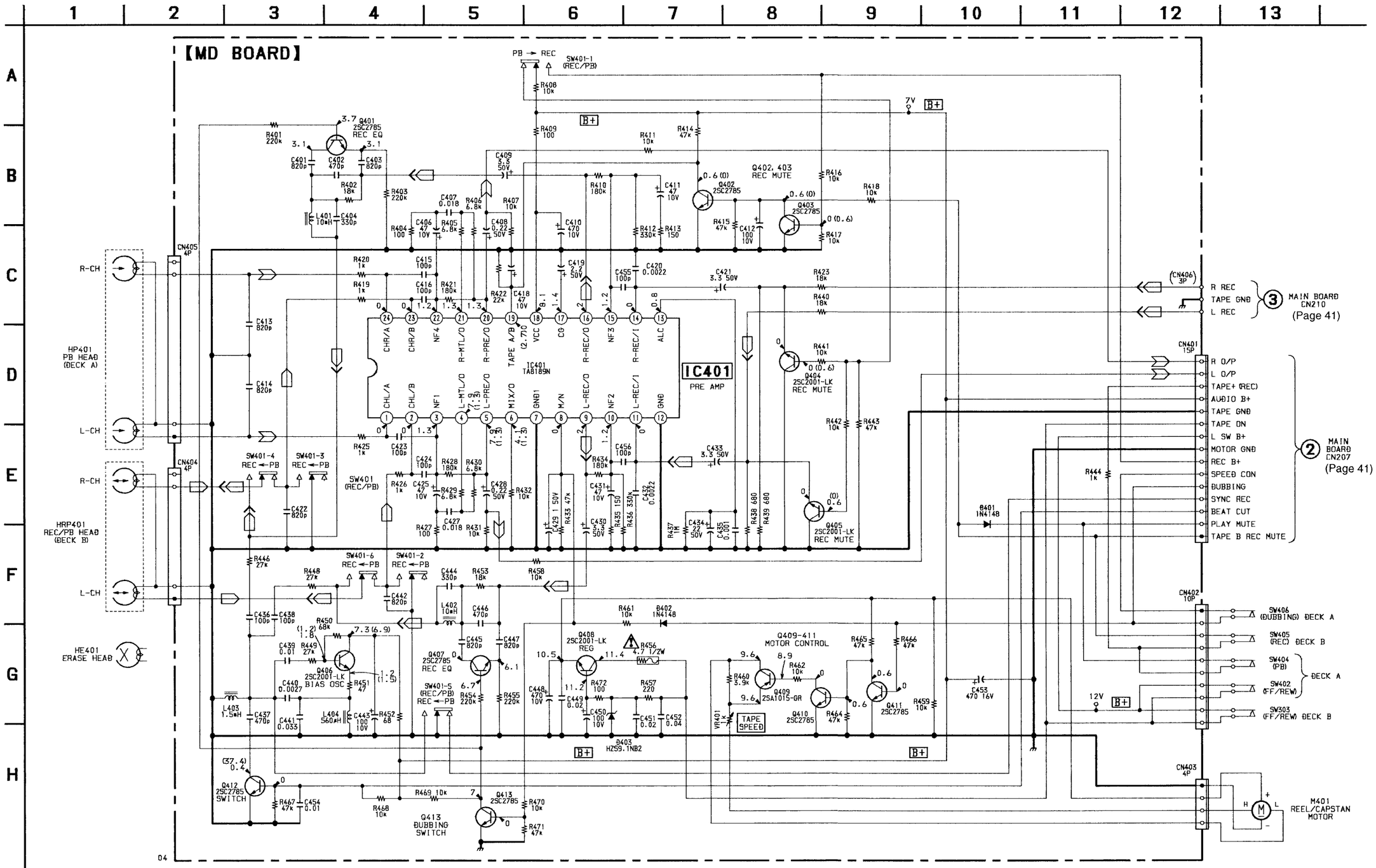
Ref. No.	Location
D401	A-7
D402	C-7
D403	B-6
IC401	C-6
Q401	D-5
Q402	D-6
Q403	D-6
Q404	D-6
Q405	C-7
Q406	B-3
Q407	B-5
Q408	B-6
Q409	A-5
Q410	A-4
Q411	A-4
Q412	B-4
Q413	C-5



Note :

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▨ : Pattern on the side which is seen.

5-5. SCHEMATIC DIAGRAM — MD SECTION — • Refer to page 46 for IC Block Diagrams.



Note :
- All capacitors are in µF unless otherwise noted. pF : µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : fusible resistor.
- B+ : B+ Line.
- : adjustment for repair.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifies par une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

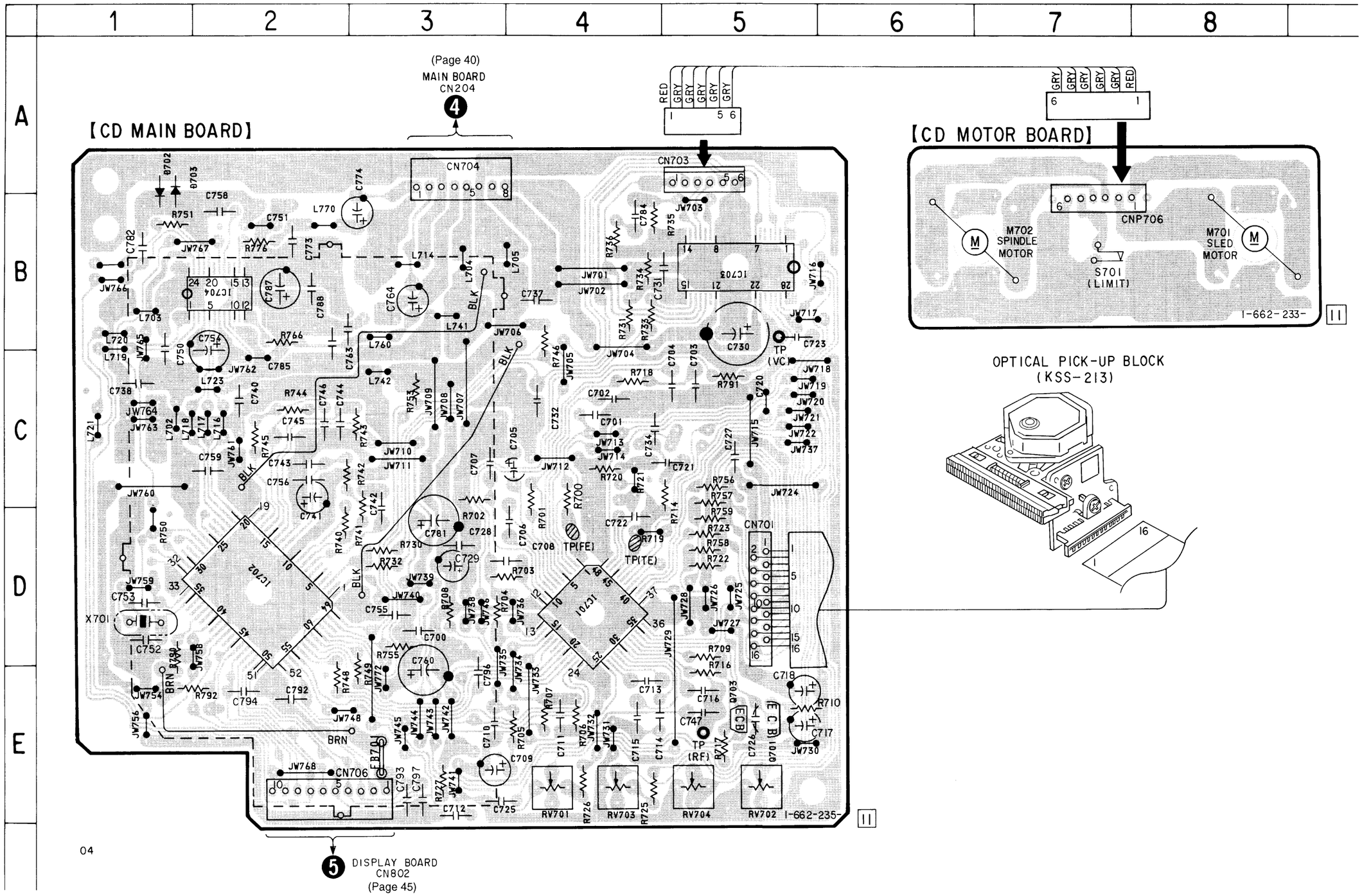
- Voltage is dc with respect to ground under no-signal conditions.
- no mark : PB (DECK A)
  ( ) : REC (DECK B)
- Voltage are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerance.

- Signal path.
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)

5-6. PRINTED WIRING BOARDS — CD SECTION —

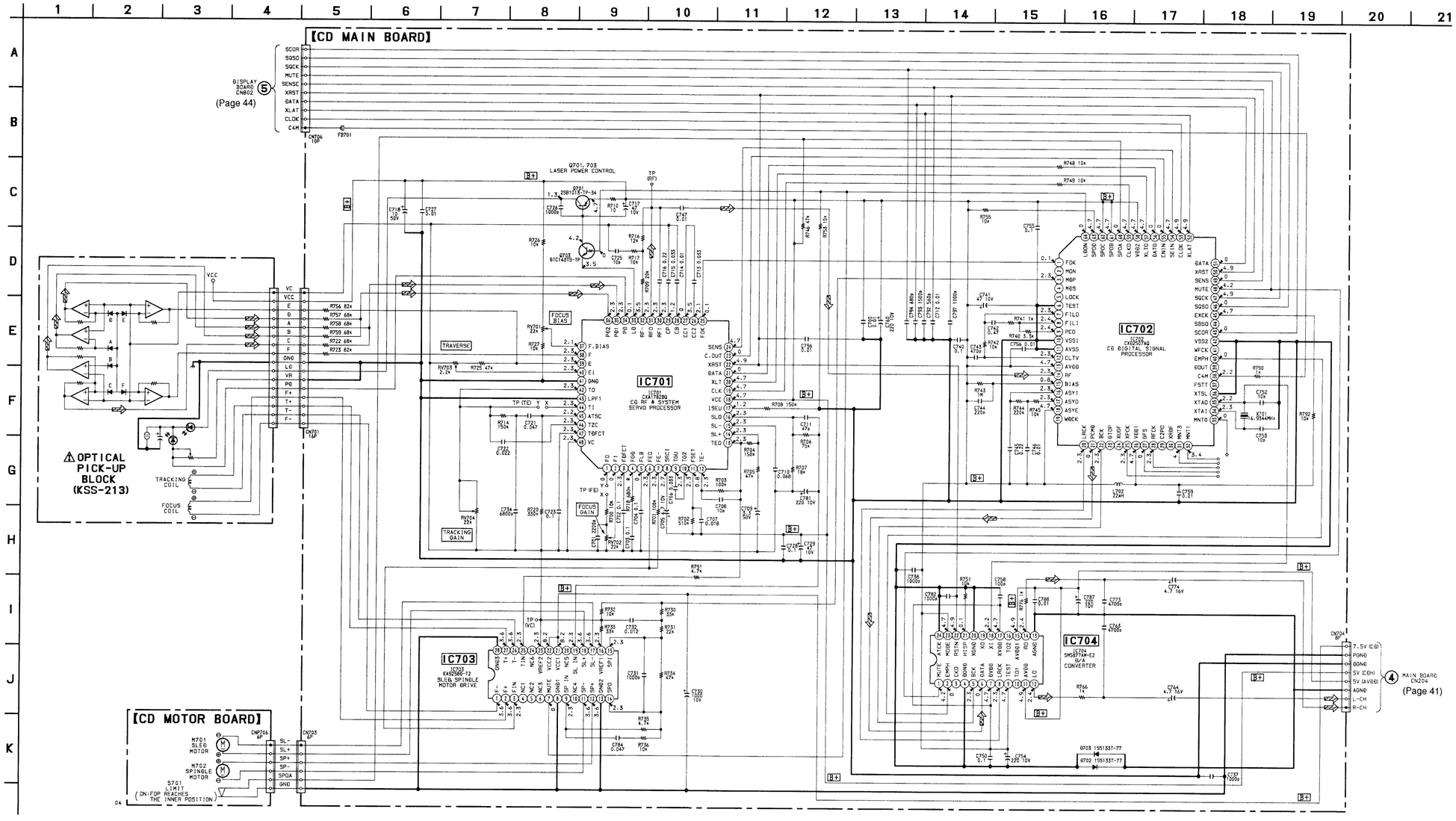
• **Semiconductor Location**

Ref. No.	Location
D702	A-1
D703	A-1
IC701	D-4
IC702	D-2
IC703	B-5
IC704	B-2
Q701	E-5
Q703	E-5



Note :
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

5-7. SCHEMATIC DIAGRAM — CD SECTION — • Refer to page 47 for IC Block Diagrams.



Note :
- All capacitors are in µF unless otherwise noted. pF : µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifies par une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

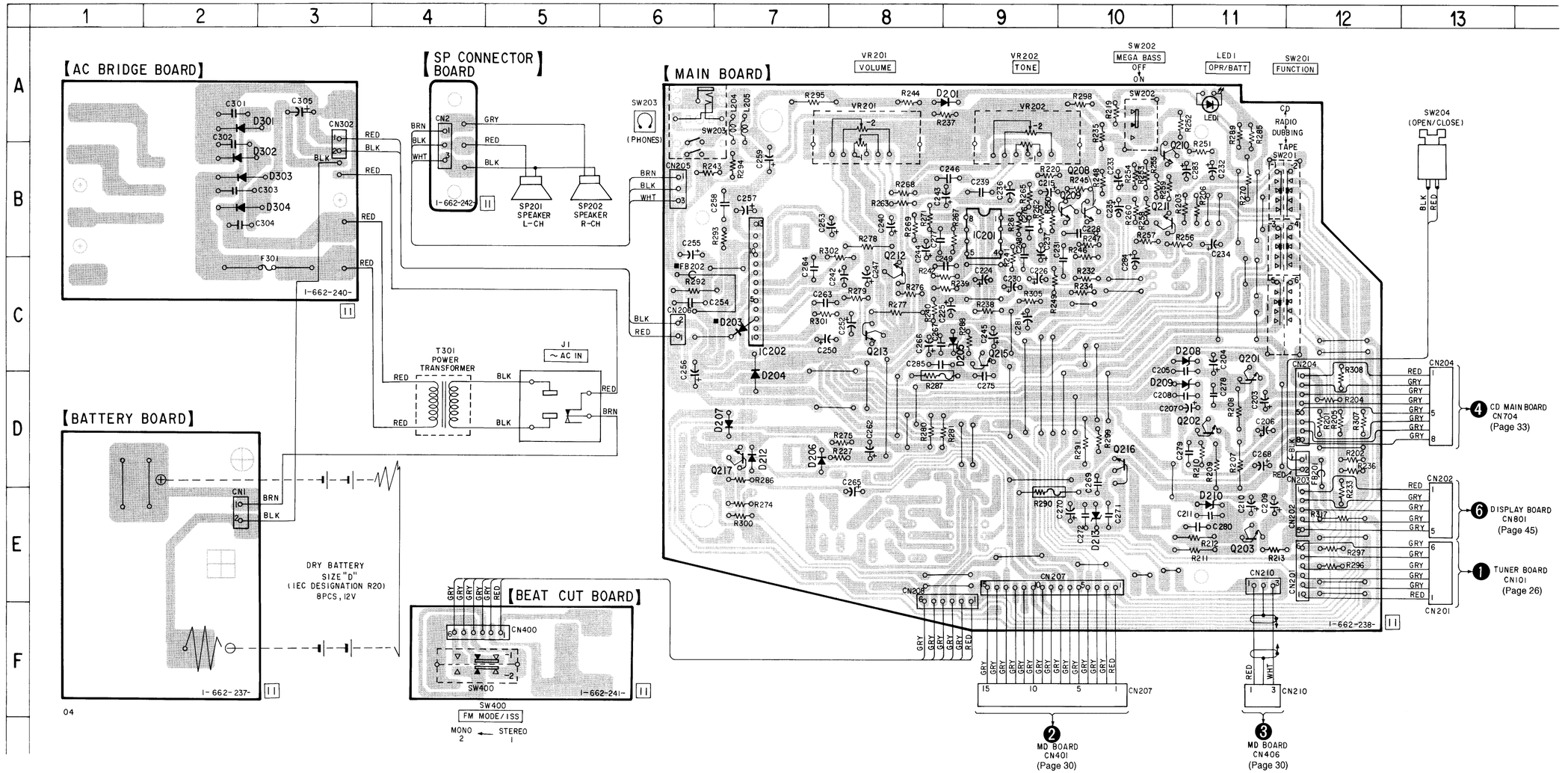
- B+ : B+ Line.
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark : CD PLAY
- Voltage are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerance.
- Signal path. : CD

5-8. PRINTED WIRING BOARDS — MAIN SECTION —

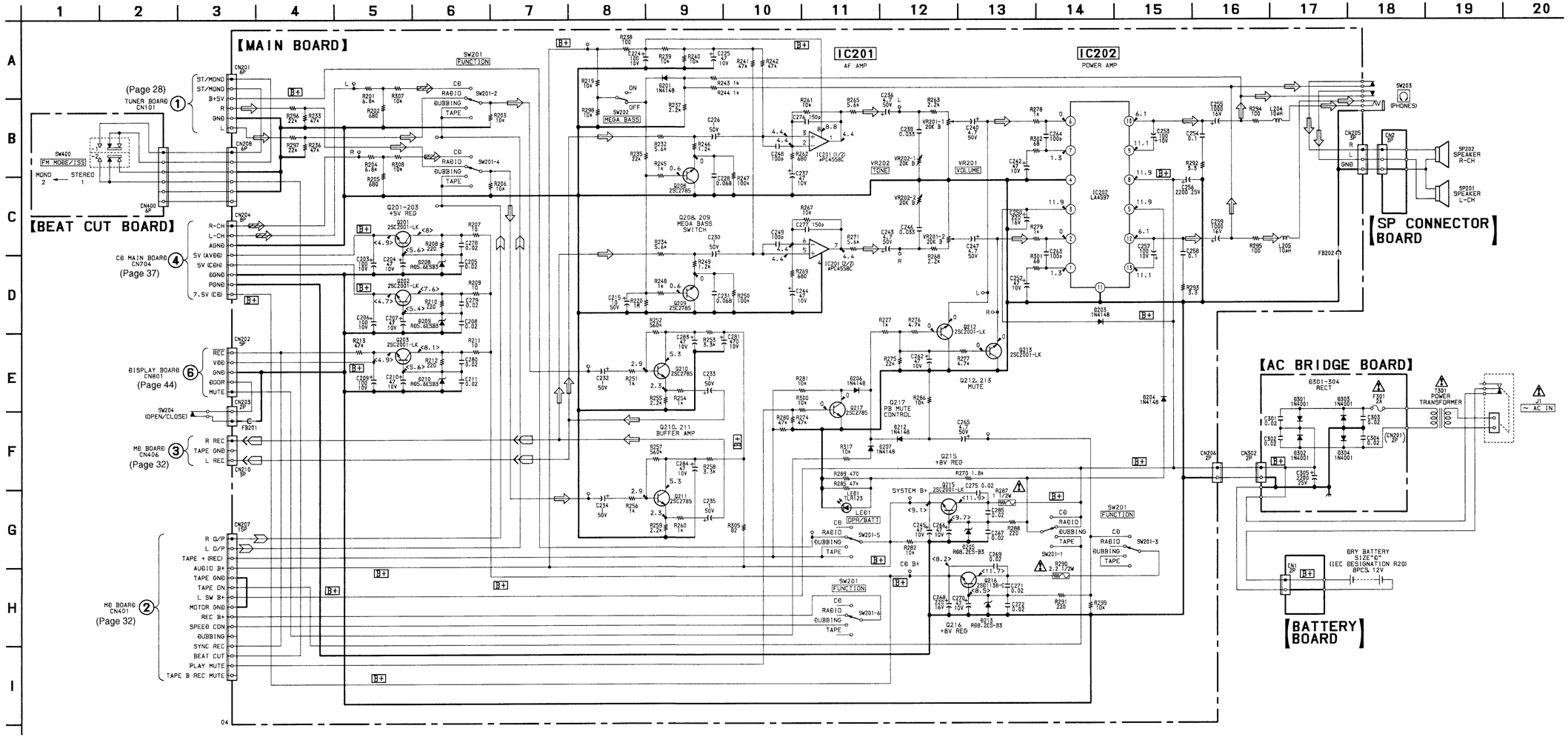
• **Semiconductor Location**

Ref. No.	Location
D201	A-8
D203	C-7
D204	C-7
D205	C-8
D206	D-7
D207	D-7
D208	C-11
D209	D-11
D210	E-11
D212	D-7
D213	E-10
D301	A-2
D302	B-2
D303	B-2
D304	B-2
IC201	B-9
IC202	C-7
LED1	A-11
Q201	C-11
Q202	D-11
Q203	E-11
Q208	B-10
Q209	B-10
Q210	B-10
Q211	B-10
Q212	C-8
Q213	C-8
Q215	C-9
Q216	D-10
Q217	D-7

Note :
- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▨ : Pattern on the side which is seen.



5-9. SCHEMATIC DIAGRAM — MAIN SECTION — • Refer to page 48 for IC Block Diagrams.

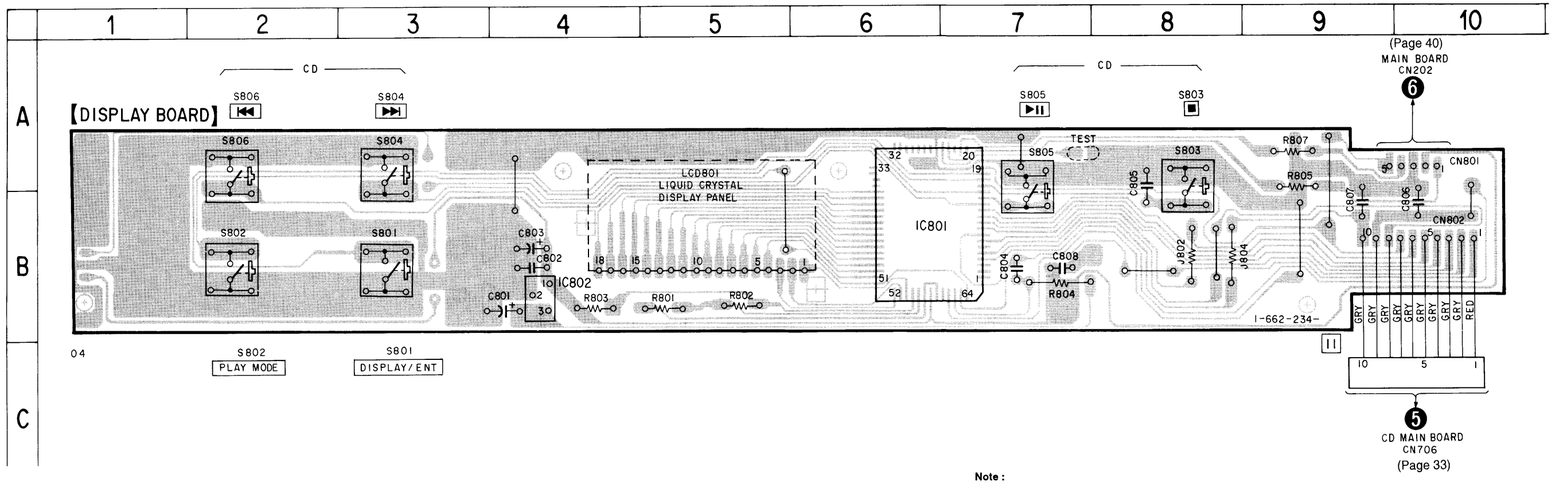


Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifies par une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

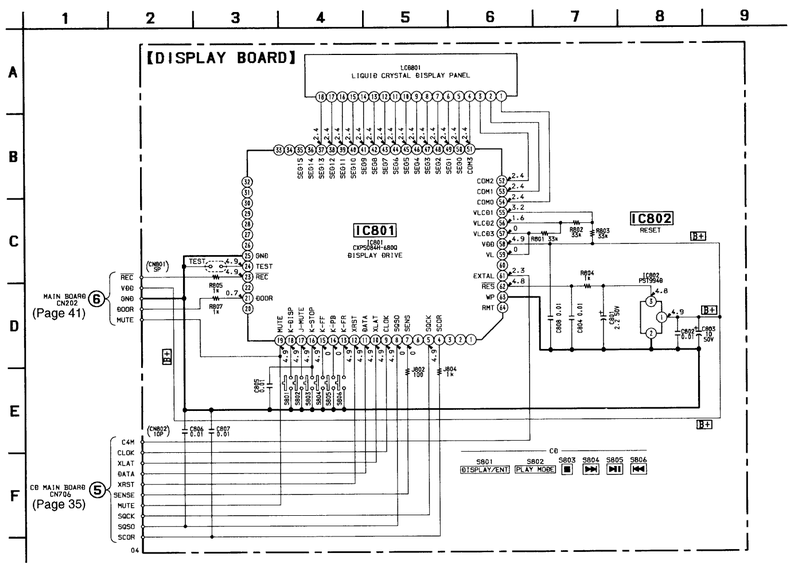
- : fusible resistor.
- B+ : B+ Line.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  < > : CD PLAY
- Voltage are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerance.
- Signal path.
  : FM
  : PB (DECK A)
  : REC (DECK B)
  : CD

5-10. PRINTED WIRING BOARDS — DISPLAY SECTION —



Note :
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

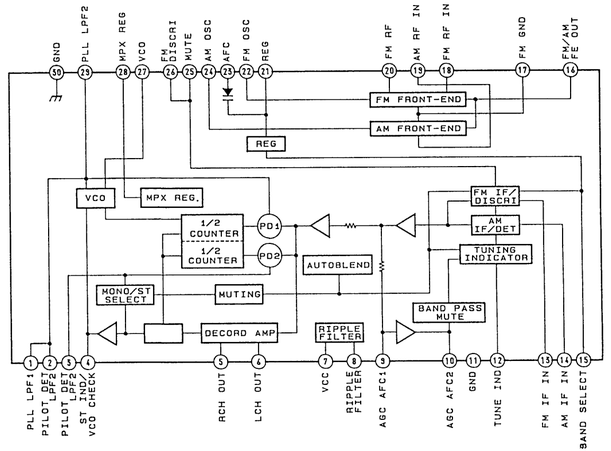
5-11. SCHEMATIC DIAGRAM — DISPLAY SECTION —



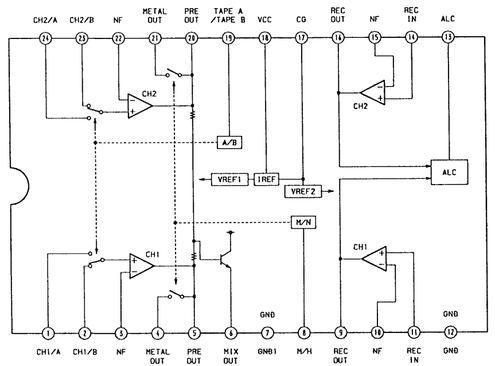
Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- Voltage are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerance.

• IC Block Diagrams

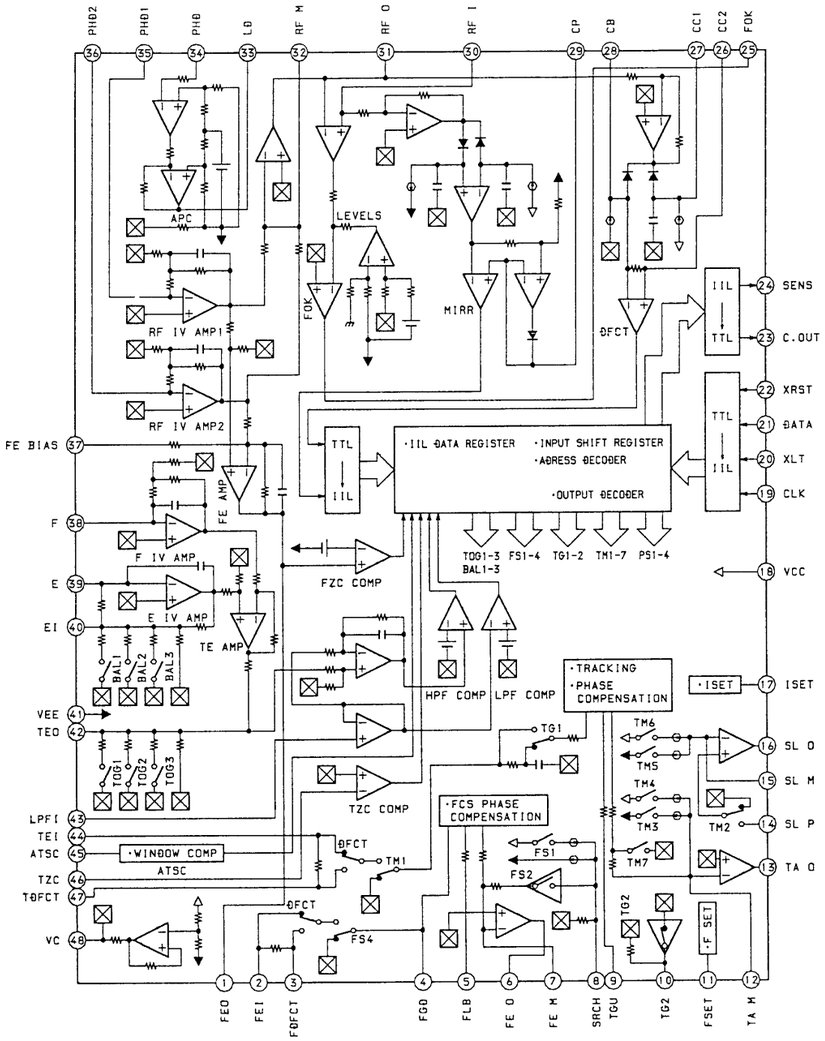
IC101 CXA1238S



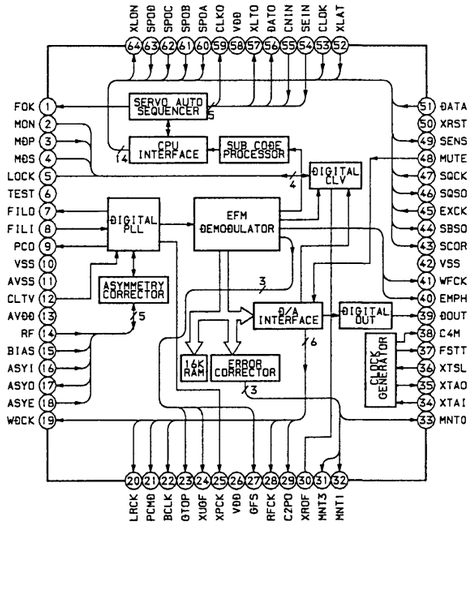
IC401 TA8189N



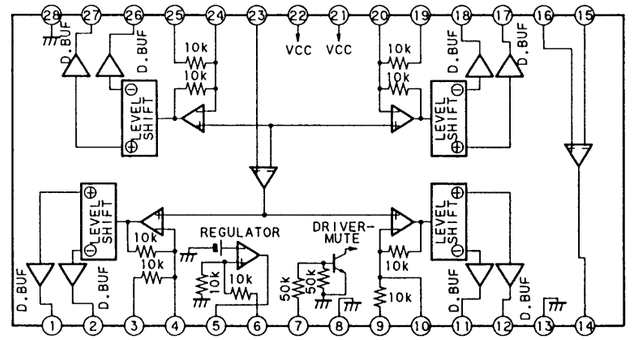
IC701 CXA1782BQ



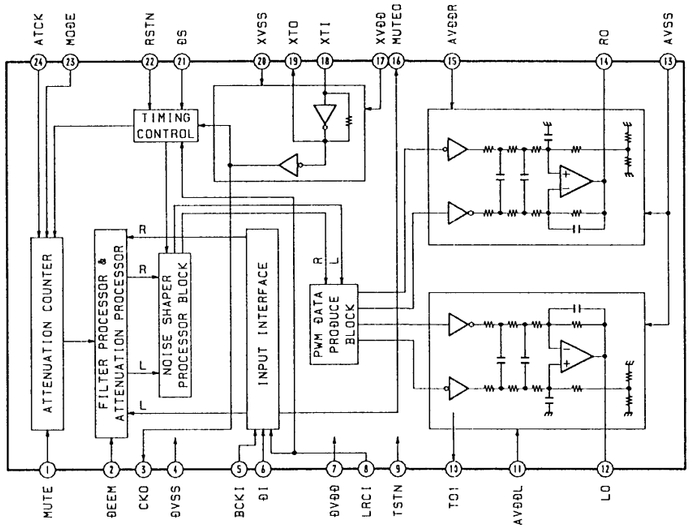
IC702 CXD2507AQ



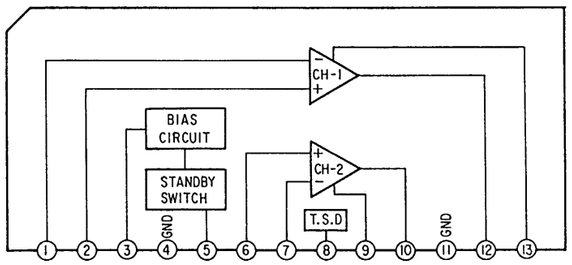
IC703 KA9258D-T2



IC704 SM5877AM-E2



IC202 LA4597



MEMO

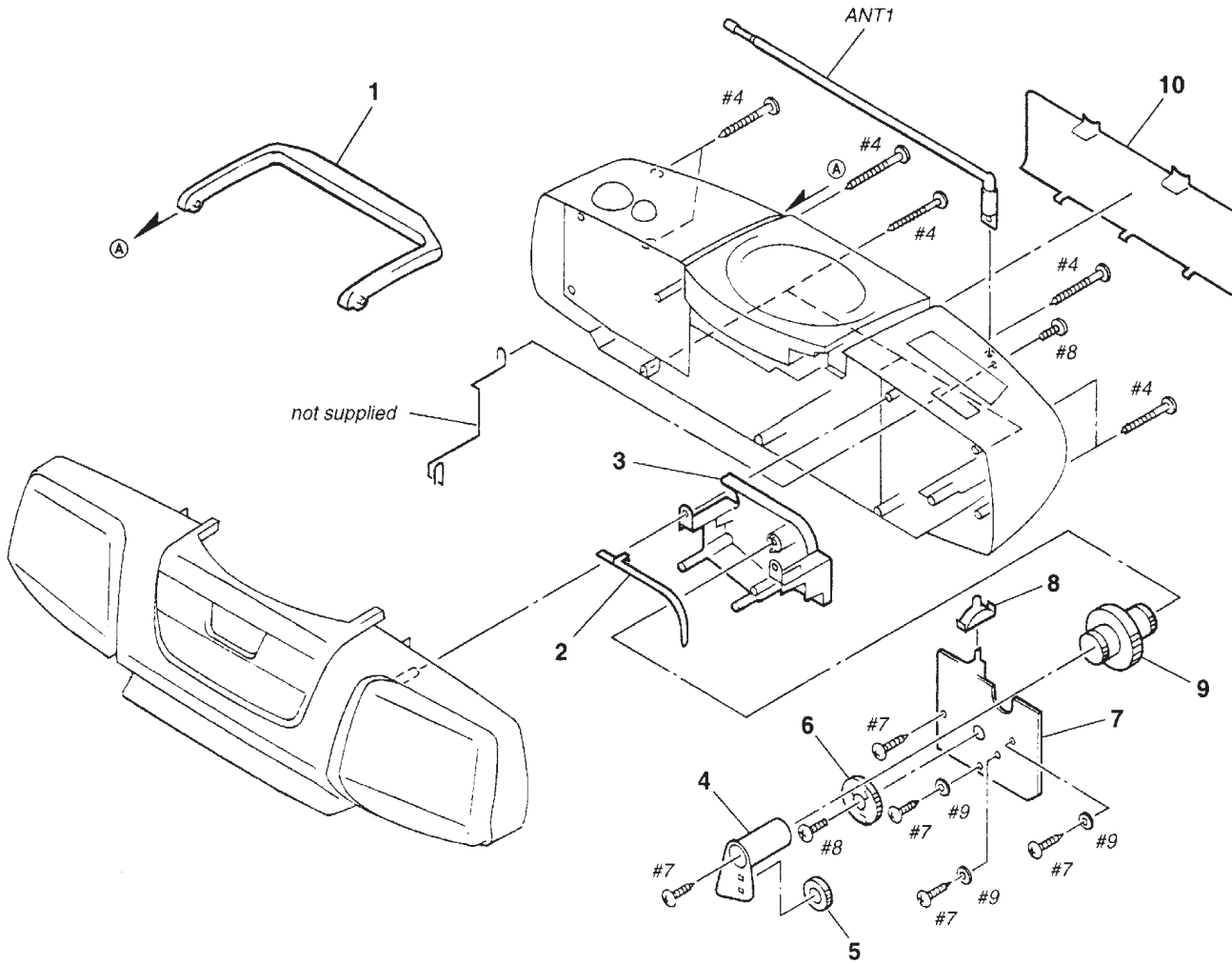
SECTION 6
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

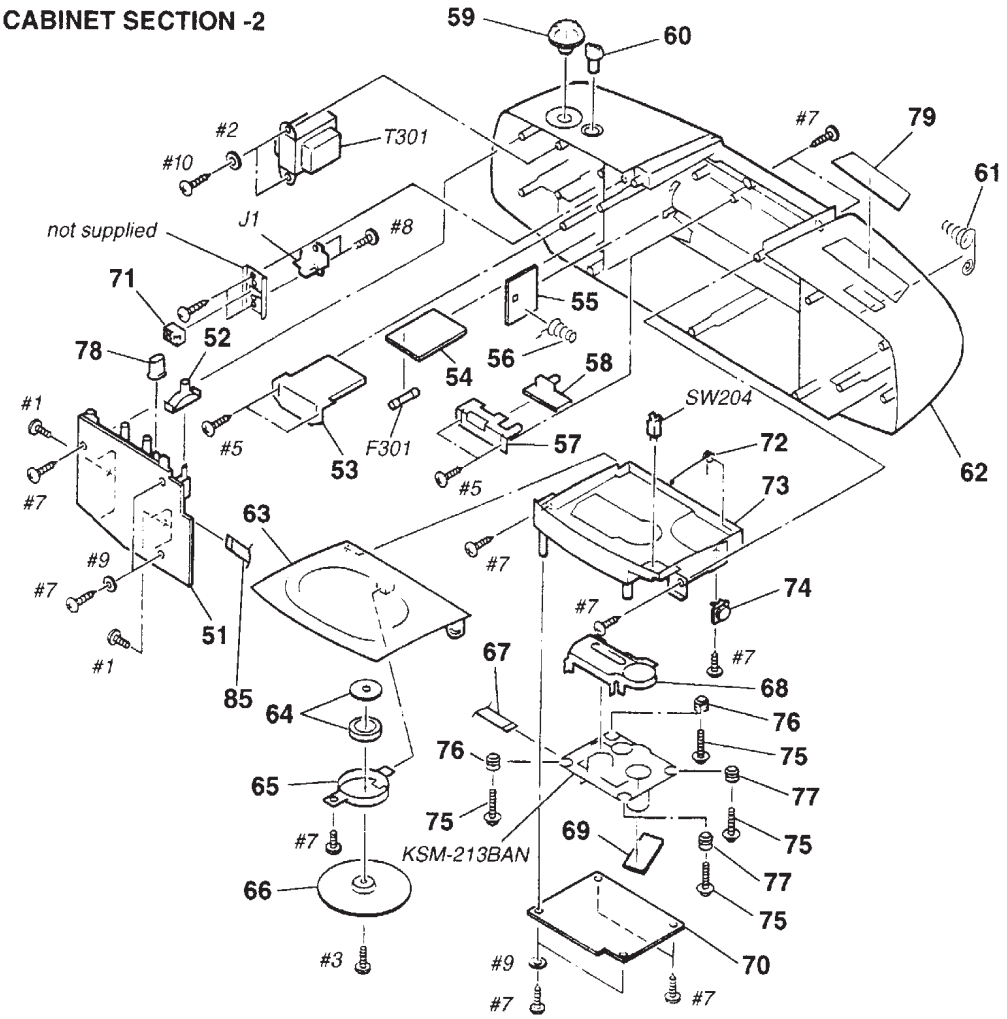
Les composants identifiés par une marque ⚠ sont critiques pour la sécurite.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. REAR CABINET SECTION -1



Ref. No.	Part No.	Description	Remark
1	3-937-598-01	HANDLE	
2	3-937-609-01	POINTER, DIAL	
* 3	X-3372-884-1	CHASSIS ASSY, POINTER	
* 4	3-007-679-01	HOLDER, GEAR	
5	3-007-677-01	GEAR, MIDWAY	
6	3-007-680-01	GEAR, TUNING CAPACITOR	
* 7	A-3306-207-A	TUNER BOARD, COMPLETE	
8	3-937-626-01	KNOB, FUNCTION	
9	3-937-608-01	KNOB, DIAL TUNING	
10	3-937-599-01	LID, BATTERY	
ANT1	1-501-874-11	ANTENNA, TELESCOPIC	

6-2. REAR CABINET SECTION -2

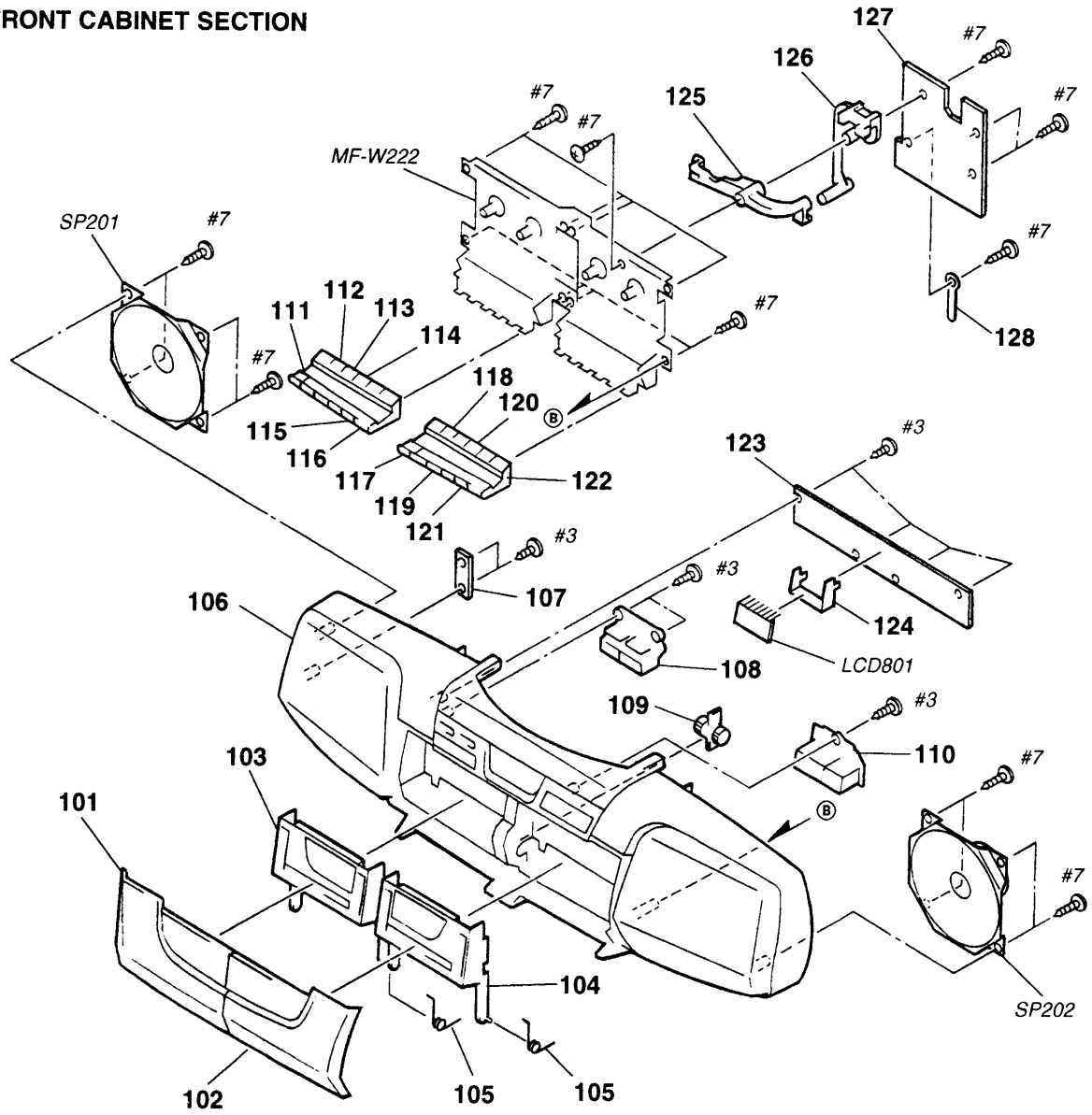


The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurite. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 51	A-3306-205-A	MAIN BOARD, COMPLETE	
52	3-937-626-01	KNOB, FUNCTION	
* 53	3-007-927-01	COVER	
* 54	1-662-240-11	AC BRIDGE BOARD	
* 55	1-662-237-11	BATTERY BOARD	
56	3-007-993-01	TERMINAL (-), BATTERY	
* 57	3-007-929-01	COVER, BEAT CUT BOARD	
* 58	1-662-241-11	BEAT CUT BOARD	
59	3-937-625-01	KNOB, VOL	
60	3-007-682-01	KNOB, TONE	
61	3-007-931-01	TERMINAL (+.-), BATTERY	
62	3-937-583-01	CABINET, REAR	
63	3-937-591-01	LID, CD	
64	1-452-531-11	MAGNET	
65	3-007-957-01	HOLDER, CHUCKING	
66	3-007-958-01	PLATE, CHUCK	
67	1-776-184-11	WIRE (FLAT TYPE) (16 CORE)	

Ref. No.	Part No.	Description	Remark
68	3-007-959-01	COVER, CD	
* 69	1-662-233-11	CD MOTOR BOARD	
* 70	A-3306-201-A	CD MAIN BOARD, COMPLETE	
* 71	3-007-928-01	COVER, AC INLET	
72	3-007-997-01	SPRING (CD LID)	
73	3-937-590-01	CABINET, CD	
74	3-007-994-01	DAMPER (CD LID)	
75	3-916-006-01	SCREW (2.6X16)	
76	3-910-095-01	RUBBER, VIBRATION PROOF	
77	3-910-095-11	RUBBER, VIBRATION PROOF	
78	3-937-627-01	KNOB, MEGA BASS	
79	3-937-607-01	WINDOW, DIAL	
85	1-757-301-11	CABLE, FLAT 8P	
⚠F301	1-576-104-11	FUSE (2A)	
⚠J1	1-251-474-11	INLET, AC (~ AC IN)	
SW204	1-692-960-11	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	
⚠T301	1-429-914-11	TRANSFORMER, POWER (US)	
⚠T301	1-431-133-11	TRANSFORMER, POWER (Canadian)	

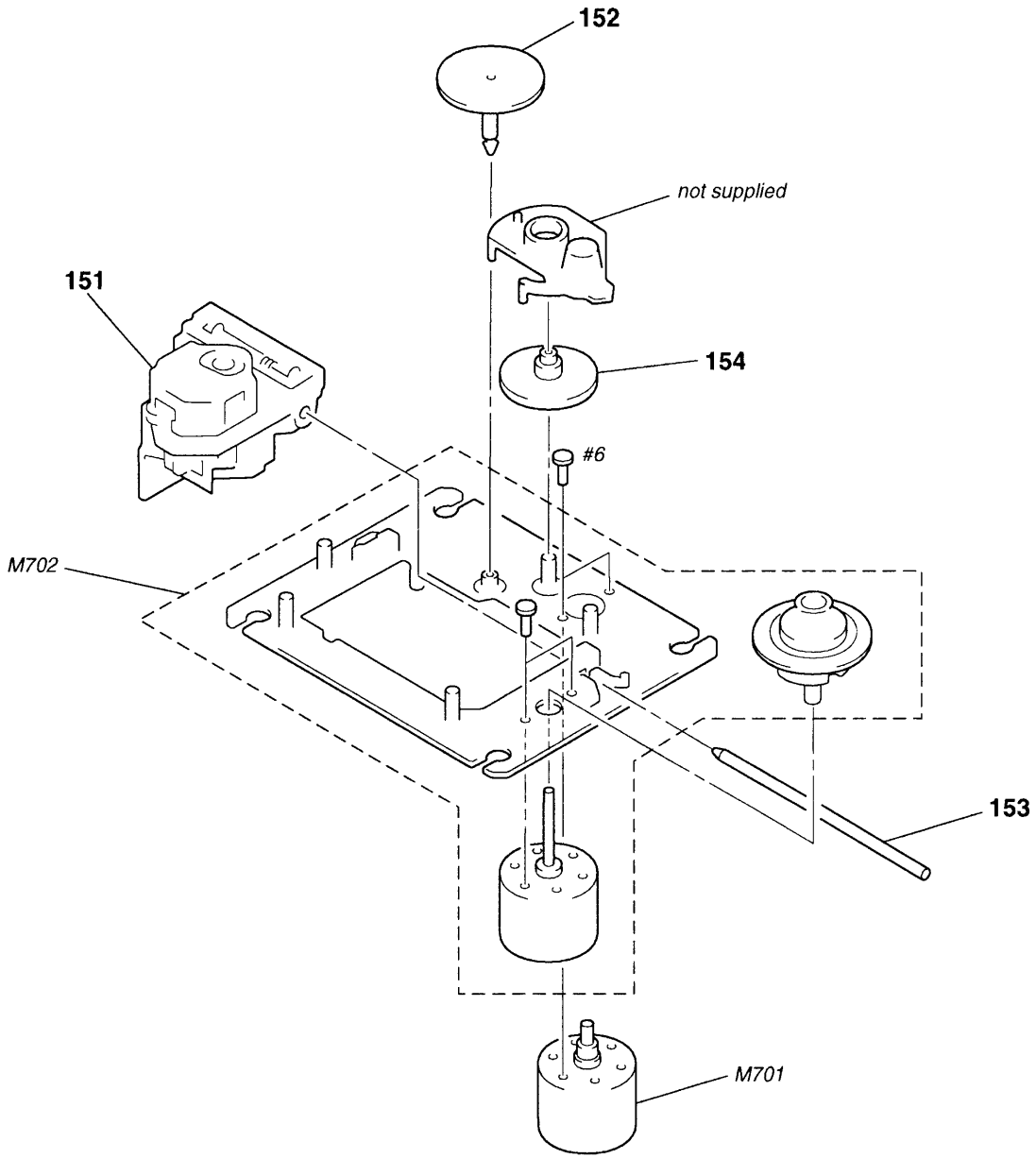
6-3. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
101	X-3372-792-1	WINDOW (A) SUB ASSY, CASSETTE	
102	X-3372-793-1	WINDOW (B) SUB ASSY, CASSETTE	
103	3-937-584-01	HOLDER (A), CASSETTE	
104	3-937-585-01	HOLDER (B), CASSETTE	
105	3-008-003-01	CASSETTE SPRING	
106	X-3372-791-1	CABINET SUB ASSY, FRONT	
* 107	1-662-242-11	SP CONNECTOR BOARD	
108	3-007-985-01	KNOB (AMS), CD	
109	3-007-986-01	DAMPER, CASSETTE HOLDER	
110	3-007-984-01	KNOB (PLAY), CD	
111	3-937-613-01	KNOB, HI-SPEED DUBBING	
112	3-937-614-01	KNOB, PLAY (A)	
113	3-937-615-01	KNOB, REW (A)	
114	3-937-616-01	KNOB, FF (A)	
115	3-937-617-01	KNOB, STOP (A)	
116	3-937-618-01	KNOB, PAUSE (A)	

Ref. No.	Part No.	Description	Remark
117	3-937-619-01	KNOB, REC	
118	3-937-620-01	KNOB, PLAY (B)	
119	3-937-621-01	KNOB, REW (B)	
120	3-937-622-01	KNOB, FF (B)	
121	3-937-623-01	KNOB, STOP (B)	
122	3-937-624-01	KNOB, PAUSE (B)	
* 123	1-662-234-11	DISPLAY BOARD	
124	3-008-004-01	BRACKET, LCD	
* 125	3-937-628-01	ARM, REC	
* 126	3-937-629-01	HOLDER, REC ARM	
* 127	A-3306-210-A	MD BOARD, COMPLETE	
128	3-465-175-00	CLAMP, WIRE	
LCD801	1-801-118-51	DISPLAY PANEL, LIQUID CRYSTAL	
SP201	1-504-736-12	SPEAKER (10CM) (L-CH)	
SP202	1-504-736-12	SPEAKER (10CM) (R-CH)	

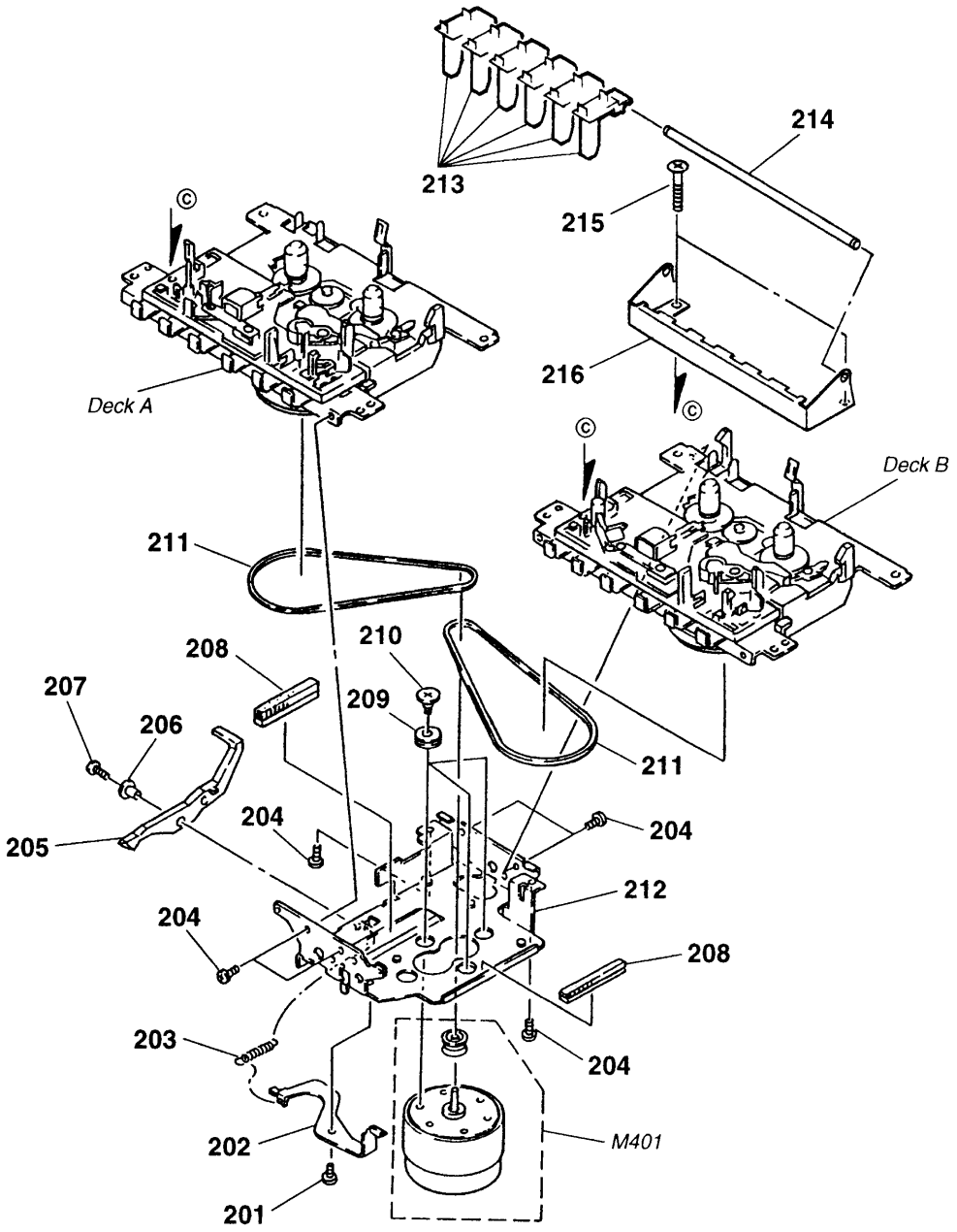
6-4. OPTICAL PICK-UP BLOCK (KSM-213BAN)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurite. Ne les remplacer que par une pièce portant le numéro spécifié.

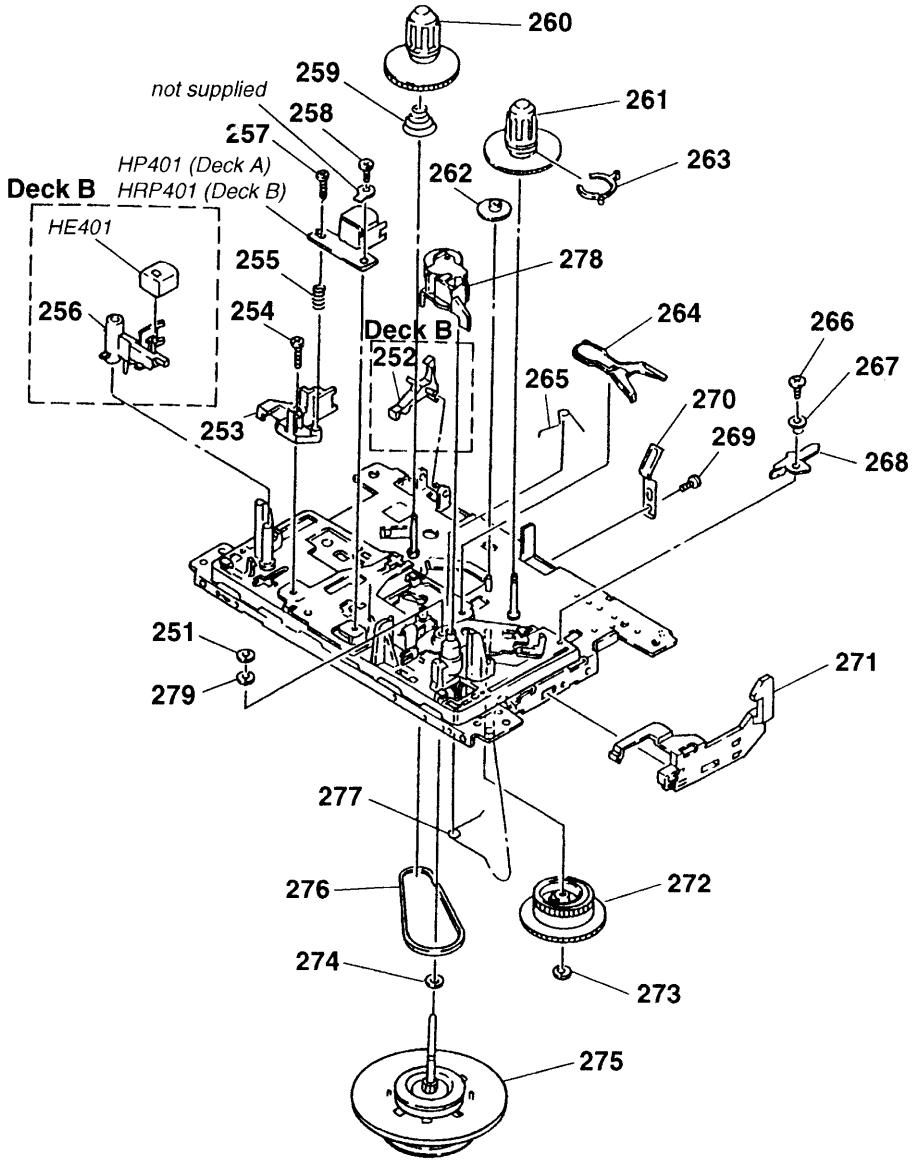
Ref. No.	Part No.	Description	Remark
⚠151	8-848-367-11	PICK-UP, OPTICAL KSS-213B/K-N	
152	2-626-907-01	GEAR (A) (S)	
153	2-626-908-01	SHAFT, SLED	
154	2-627-003-01	GEAR (B) (RP)	
M701	X-2625-769-1	MOTOR GEAR ASSY (SLED)	
M702	X-2625-770-1	MOTOR ASSY, SPINDLE	

6-5. MECHANISM DECK SECTION-1 (MF-W222)



Ref. No.	Part No.	Description	Remark
201	3-915-826-01	SCREW (A), PK COLLAR	
* 202	3-915-825-01	LEVER (A), P KICK	
203	3-915-537-01	SPRING, P KICK LEVER	
204	3-915-809-01	SCREW (M2X4), C TIGHT	
205	3-915-824-01	LEVER (B), P KICK	
206	3-915-827-01	COLLAR (B)	
207	3-915-815-01	SCREW (M2X6), C TIGHT	
208	3-915-803-01	MAT, VIBRATION PROOF	
209	3-915-799-01	RUBBER, MOTOR	
210	3-915-800-01	SCREW, MOTOR COLLAR	
211	3-915-802-01	BELT, MAIN	
* 212	3-915-798-01	BRACKET, MOTOR	
213	3-915-820-01	LEVER, CONTROL	
214	3-915-822-01	SHAFT, BUTTON LEVER	
215	3-915-823-01	SCREW (M2X8) (GUIDE)	
* 216	3-915-821-01	FRAME (S), B	
M401	X-3369-087-1	MOTOR ASSY (REEL/CAPSTAN)	

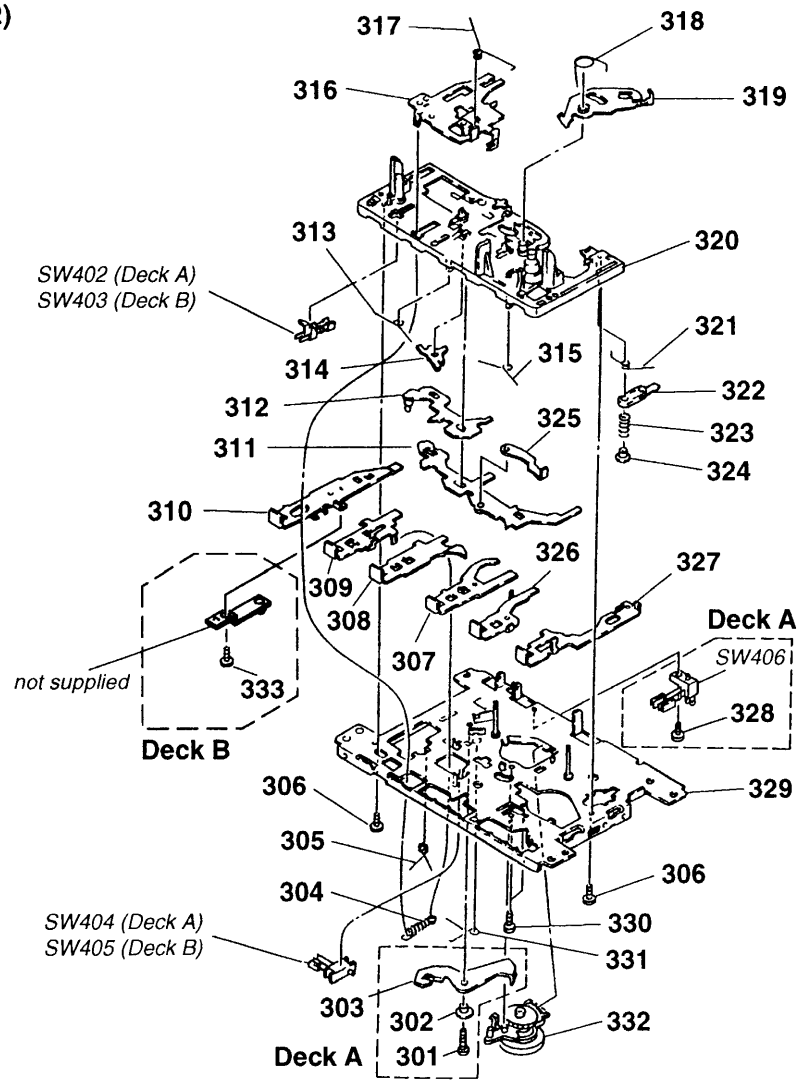
6-6. MECHANISM DECK SECTION-2 (MF-W222)



Ref. No.	Part No.	Description	Remark
251	3-915-818-01	WASHER, POLY-SLIDER	
252	3-915-806-01	LEVER, REC SAFETY (DECK B)	
253	3-915-777-01	BASE, HEAD	
254	3-915-812-01	SCREW (M2X6), PAN	
255	3-915-783-01	SPRING, AZIMUTH	
256	3-915-782-01	ARM, MG (DECK B)	
257	3-915-814-01	SCREW (M2X7), AZIMUTH	
258	3-915-813-01	SCREW (M2X3), + BIND	
259	3-915-794-01	SPRING, BACK TENSION	
260	3-915-795-01	REEL ASSY, SUPPLY	
261	3-915-796-01	REEL ASSY, TAKE-UP	
262	3-915-793-01	GEAR, FF	
263	3-915-797-01	SENSOR	
264	3-915-785-01	LEVER, SENSING	
265	3-915-781-01	SPRING, M CONTROL	
266	3-915-816-01	SCREW (M2X3), PS TIGHT	
267	3-915-874-01	COLLAR, P ARM	

Ref. No.	Part No.	Description	Remark
268	3-915-873-01	ARM, P	
269	3-915-808-01	SCREW (M2X3), C TIGHT	
270	3-915-805-01	PLATE, SPRING, PACK RETAINER	
271	3-915-804-01	LEVER, EJECT SLIDE	
272	3-915-792-01	GEAR, CAM	
273	3-915-817-01	WASHER, POLY-SLIDER	
274	3-915-819-01	WASHER, POLY-SLIDER	
275	3-915-788-01	FLYWHEEL ASSY (DECK B)	
275	3-915-789-01	FLYWHEEL ASSY (DECK A)	
276	3-915-787-01	BELT, RF	
277	3-915-758-01	SPRING, E ACTUATOR	
278	3-915-784-01	ARM ASSY, PINCH ROLLER	
279	3-009-486-01	WASHER, P	
HE401	1-500-139-11	HEAD (ERASE) (DECK B)	
HP401	1-500-138-11	HEAD (PLAYBACK) (DECK A)	
HRP401	1-500-138-11	HEAD (RECORD/PLAYBACK) (DECK B)	

6-7. MECHANISM DECK SECTION-3 (MF-W222)



Ref. No.	Part No.	Description	Remark
301	3-915-809-01	SCREW (M2X4), C TIGHT (DECK A)	
302	3-915-874-01	COLLAR, P ARM (DECK A)	
* 303	3-915-453-01	ARM, REC (DECK A)	
304	3-915-775-01	SPRING (S), PLAY BUTTON LEVER	
305	3-915-759-01	SPRING, PS LEVER	
306	3-915-810-01	SCREW (M2X5), P TIGHT BIND	
* 307	3-915-749-01	LEVER, FF BUTTON	
* 308	3-915-745-01	LEVER, REW BUTTON	
* 309	3-915-744-01	LEVER, PLAY BUTTON	
* 310	3-915-743-01	LEVER, REC BUTTON	
* 311	3-915-742-01	PLATE, FUNCTION, PUSH BUTTON	
* 312	3-915-741-01	PLATE, FUNCTION, SWITCH	
313	3-915-756-01	SPRING (A), BUTTON LEVER	
* 314	3-915-772-01	STOPPER, PR	
315	3-915-774-01	SPRING (B), BUTTON LEVER	
316	3-915-776-01	PANEL, HEAD	
317	3-915-780-01	SPRING, PANEL (P)	
318	3-915-790-01	SPRING, GEAR PLATE	
* 319	3-915-791-01	PLATE ASSY, GEAR	

Ref. No.	Part No.	Description	Remark
320	3-915-740-01	BASE ASSY (A)	
321	3-915-752-01	SPRING, P CONTROL	
* 322	3-915-753-01	LEVER (E), PAUSE	
323	3-915-754-01	SPRING, PAUSE LEVER	
324	3-915-755-01	STOPPER, PAUSE	
* 325	3-915-760-01	LEVER, E KICK	
* 326	3-915-750-01	LEVER, STOP BUTTON	
* 327	3-915-751-01	LEVER, PAUSE BUTTON	
328	3-915-807-01	SCREW (M2X5), C TIGHT (DECK A)	
* 329	3-915-757-01	CHASSIS ASSY	
330	3-915-811-01	SCREW (M2X4.5), CAMERA TAPPING	
331	3-915-773-01	SPRING, REC BUTTON LEVER	
332	3-915-786-01	CLUTCH ASSY, RF	
333	3-915-808-01	SCREW (M2X3), C TIGHT (DECK B)	
SW402	1-762-022-11	SWITCH, LEAF (FF/REW) (DECK A)	
SW403	1-762-022-11	SWITCH, LEAF (FF/REW) (DECK B)	
SW404	1-762-023-11	SWITCH, LEAF (PLAYBACK) (DECK A)	
SW405	1-762-023-11	SWITCH, LEAF (REC) (DECK B)	
SW406	1-762-024-11	SWITCH, LEAF (DUBBING) (DECK A)	

AC BRIDGE | BATTERY

BEAT CUT | CD MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA.. : μA.. uPA.. : μPA..
  uPB.. : μPB.. uPC.. : μPC.. uPD.. : μPD..
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurite.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-662-240-11	AC BRIDGE BOARD			
		**********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
C301	1-101-005-21	CERAMIC	0.02uF	5%	50V
C302	1-101-005-21	CERAMIC	0.02uF	5%	50V
C303	1-101-005-21	CERAMIC	0.02uF	5%	50V
C304	1-101-005-21	CERAMIC	0.02uF	5%	50V
C305	1-124-563-51	ELECT	2200uF	20%	25V
		< DIODE >			
D301	8-719-200-02	DIODE 10E2			
D302	8-719-200-02	DIODE 10E2			
D303	8-719-200-02	DIODE 10E2			
D304	8-719-200-02	DIODE 10E2			
		< FUSE >			
⚠F301	1-576-107-11	FUSE (2A)			
**********					
*	1-662-237-11	BATTERY BOARD			
		**********			
	3-007-993-01	TERMINAL (-), BATTERY			
		< CONNECTOR >			
* CN1	1-778-849-11	PIN, CONNECTOR 2P			
**********					
*	1-662-241-11	BEAT CUT BOARD			
		**********			
		< CONNECTOR >			
CN400	1-778-839-11	PIN, CONNECTOR 6P			
		< SWITCH >			
SW400	1-762-863-11	SWITCH, SLIDE (FM MODE/ISS)			
**********					

Ref. No.	Part No.	Description			Remark
*	A-3306-201-A	CD MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C700	1-162-306-11	CERAMIC	0.01uF	30%	16V
C701	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C702	1-136-165-00	FILM	0.1uF	5%	50V
C703	1-136-165-00	FILM	0.1uF	5%	50V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-131-375-00	TANTALUM	4.7uF	10%	10V
C706	1-130-489-00	MYLAR	0.033uF	5%	50V
C707	1-130-486-00	MYLAR	0.018uF	10%	50V
C708	1-162-199-31	CERAMIC	10PF	5%	50V
C709	1-126-962-11	ELECT	3.3uF	20%	50V
C710	1-130-493-00	MYLAR	0.068uF	5%	50V
C711	1-162-215-31	CERAMIC	47PF	5%	50V
C712	1-162-306-11	CERAMIC	0.01uF	30%	16V
C713	1-130-489-00	MYLAR	0.033uF	5%	50V
C714	1-162-306-11	CERAMIC	0.01uF	30%	16V
C715	1-130-489-00	MYLAR	0.033uF	5%	50V
C716	1-136-169-00	FILM	0.22uF	5%	50V
C717	1-104-664-11	ELECT	47uF	20%	10V
C718	1-124-907-11	ELECT	10uF	20%	50V
C721	1-130-491-00	MYLAR	0.047uF	5%	50V
C722	1-161-494-00	CERAMIC	0.022uF		25V
C723	1-136-165-00	FILM	0.1uF	5%	50V
C725	1-162-199-31	CERAMIC	10PF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-162-306-11	CERAMIC	0.01uF	30%	16V
C728	1-164-159-21	CERAMIC	0.1uF		50V
C729	1-104-664-11	ELECT	47uF	20%	10V
C730	1-124-473-11	ELECT	1000uF	20%	10V
C731	1-162-294-31	CERAMIC	0.001uF	10%	50V
C732	1-130-484-00	MYLAR	0.012uF	5%	50V
C734	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C737	1-162-294-31	CERAMIC	0.001uF	10%	50V
C738	1-162-294-31	CERAMIC	0.001uF	10%	50V
C740	1-164-159-21	CERAMIC	0.1uF		50V
C741	1-124-589-11	ELECT	47uF	20%	16V

CD MAIN

Ref. No.	Part No.	Description			Remark
C742	1-136-173-00	FILM	0.47uF	5%	50V
C743	1-162-290-31	CERAMIC	470PF	10%	50V
C744	1-162-286-21	CERAMIC	220PF	10%	50V
C745	1-136-169-00	FILM	0.22uF	5%	50V
C746	1-162-306-11	CERAMIC	0.01uF	30%	16V
C747	1-130-483-00	MYLAR	0.01uF	5%	50V
C750	1-164-159-21	CERAMIC	0.1uF		50V
C752	1-162-199-31	CERAMIC	10PF	5%	50V
C753	1-162-199-31	CERAMIC	10PF	5%	50V
C754	1-104-666-11	ELECT	220uF	20%	10V
C755	1-164-159-21	CERAMIC	0.1uF		50V
C756	1-162-306-11	CERAMIC	0.01uF	30%	16V
C758	1-162-282-31	CERAMIC	100PF	10%	50V
C759	1-162-306-11	CERAMIC	0.01uF	30%	16V
C760	1-104-666-11	ELECT	220uF	20%	10V
C763	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C764	1-126-163-11	ELECT	4.7uF	20%	50V
C773	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C774	1-126-163-11	ELECT	4.7uF	20%	50V
C781	1-104-666-11	ELECT	220uF	20%	10V
C782	1-162-294-31	CERAMIC	0.001uF	10%	50V
C784	1-130-491-00	MYLAR	0.047uF	5%	50V
C787	1-104-666-11	ELECT	220uF	20%	10V
C788	1-162-306-11	CERAMIC	0.01uF	30%	16V
C792	1-162-291-31	CERAMIC	560PF	10%	50V
C793	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C794	1-162-292-31	CERAMIC	680PF	10%	50V
C796	1-162-306-11	CERAMIC	0.01uF	30%	16V
C797	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
CN701	1-770-168-11	CONNECTOR, FFC/FPC 16P			
CN703	1-778-839-11	PIN, CONNECTOR 6P			
CN704	1-778-840-11	PIN, CONNECTOR 8P			
CN706	1-778-841-11	PIN, CONNECTOR 10P			
		< DIODE >			
D702	8-719-991-33	DIODE 1SS133T-77			
D703	8-719-991-33	DIODE 1SS133T-77			
		< COIL >			
FB701	1-412-911-11	INDUCTOR			
		< IC >			
IC701	8-752-069-56	IC CXA1782BQ			
IC702	8-752-372-94	IC CXD2507AQ			
IC703	8-759-336-75	IC BA5930FP			
IC704	8-759-364-34	IC SM5877AM			

Ref. No.	Part No.	Description			Remark
		< COIL >			
L702	1-408-607-31	INDUCTOR 22uH			
		< TRANSISTOR >			
Q701	8-729-801-84	TRANSISTOR 2SB1013-4			
Q703	8-729-900-74	TRANSISTOR DTC143TS			
		< RESISTOR >			
R700	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-247-896-11	CARBON	510K	5%	1/4W
R703	1-249-441-11	CARBON	100K	5%	1/4W
R704	1-247-883-00	CARBON	150K	5%	1/4W
R705	1-249-437-11	CARBON	47K	5%	1/4W
R706	1-247-876-11	CARBON	75K	5%	1/4W
R707	1-249-432-11	CARBON	18K	5%	1/4W
R708	1-247-883-00	CARBON	150K	5%	1/4W
R709	1-247-862-11	CARBON	20K	5%	1/4W
R710	1-249-393-11	CARBON	10	5%	1/4W
R714	1-247-883-00	CARBON	150K	5%	1/4W
R716	1-249-430-11	CARBON	12K	5%	1/4W
R717	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R720	1-247-891-00	CARBON	330K	5%	1/4W
R722	1-249-439-11	CARBON	68K	5%	1/4W
R723	1-249-440-11	CARBON	82K	5%	1/4W
R725	1-249-437-11	CARBON	47K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R727	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W
R731	1-247-863-11	CARBON	22K	5%	1/4W
R732	1-249-429-11	CARBON	10K	5%	1/4W
R733	1-249-435-11	CARBON	33K	5%	1/4W
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-425-11	CARBON	4.7K	5%	1/4W
R736	1-249-429-11	CARBON	10K	5%	1/4W
R740	1-247-843-11	CARBON	3.3K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-429-11	CARBON	10K	5%	1/4W
R743	1-247-903-00	CARBON	1M	5%	1/4W
R744	1-247-887-00	CARBON	220K	5%	1/4W
R745	1-249-429-11	CARBON	10K	5%	1/4W
R746	1-249-437-11	CARBON	47K	5%	1/4W
R748	1-249-429-11	CARBON	10K	5%	1/4W
R749	1-249-429-11	CARBON	10K	5%	1/4W
R751	1-249-429-11	CARBON	10K	5%	1/4W
R753	1-249-429-11	CARBON	10K	5%	1/4W
R755	1-249-429-11	CARBON	10K	5%	1/4W

CD MAIN **CD MOTOR** **DISPLAY** **MAIN**

Ref. No.	Part No.	Description				Remark
R756	1-249-440-11	CARBON	82K	5%	1/4W	
R757	1-249-439-11	CARBON	68K	5%	1/4W	
R758	1-249-439-11	CARBON	68K	5%	1/4W	
R759	1-249-439-11	CARBON	68K	5%	1/4W	
R766	1-249-417-11	CARBON	1K	5%	1/4W	
R776	1-249-417-11	CARBON	1K	5%	1/4W	
R790	1-249-417-11	CARBON	1K	5%	1/4W	
R791	1-249-431-11	CARBON	15K	5%	1/4W	
R792	1-249-429-11	CARBON	10K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV701	1-230-497-11	RES, ADJ, CARBON 22K				
RV702	1-230-497-11	RES, ADJ, CARBON 22K				
RV703	1-223-459-21	RES, ADJ, CERMET 2.2K				
RV704	1-230-497-11	RES, ADJ, CARBON 22K				
		< VIBRATOR >				
X701	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)				
**********						
*	1-662-233-11	CD MOTOR BOARD				
		**********				
		< CONNECTOR >				
* CNP706	1-778-839-11	PIN, CONNECTOR 6P				
		< SWITCH >				
S701	1-571-936-11	SWITCH, LEAF (LIMIT)				
**********						
*	1-662-234-11	DISPLAY BOARD				
		**********				
	3-008-004-01	BRACKET, LCD				
		< CAPACITOR >				
C801	1-124-904-11	ELECT	2.2uF	20%	50V	
C802	1-102-129-21	CERAMIC	0.01uF	5%	50V	
C803	1-124-907-11	ELECT	10uF	20%	50V	
C804	1-102-129-21	CERAMIC	0.01uF	5%	50V	
C805	1-102-129-21	CERAMIC	0.01uF	5%	50V	
C806	1-102-129-21	CERAMIC	0.01uF	5%	50V	
C807	1-102-129-21	CERAMIC	0.01uF	5%	50V	
C808	1-102-129-21	CERAMIC	0.01uF	5%	50V	
		< IC >				
IC801	8-752-872-47	IC CXP5084H-680Q				
IC802	8-759-256-72	IC PST994D				
		< RESISTOR >				
J802	1-247-807-11	CARBON	100	5%	1/4W	
J804	1-249-417-11	CARBON	1K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
		< LIQUID CRYSTAL DISPLAY >				
LCD801	1-801-118-51	DISPLAY PANEL, LIQUID CRYSTAL				
		< RESISTOR >				
R801	1-247-867-11	CARBON	33K	5%	1/4W	
R802	1-247-867-11	CARBON	33K	5%	1/4W	
R803	1-247-867-11	CARBON	33K	5%	1/4W	
R804	1-249-417-11	CARBON	1K	5%	1/4W	
R805	1-249-417-11	CARBON	1K	5%	1/4W	
R807	1-249-417-11	CARBON	1K	5%	1/4W	
		< SWITCH >				
S801	1-762-869-11	SWITCH, TACTILE (DISPLAY/ENT)				
S802	1-762-869-11	SWITCH, TACTILE (PLAY MODE)				
S803	1-762-869-11	SWITCH, TACTILE (■)				
S804	1-762-869-11	SWITCH, TACTILE (▶▶I)				
S805	1-762-869-11	SWITCH, TACTILE (▶II)				
S806	1-762-869-11	SWITCH, TACTILE (I◀◀)				
**********						
*	A-3306-205-A	MAIN BOARD, COMPLETE				
		**********				
	3-937-625-01	KNOB, VOL				
	3-937-626-01	KNOB, FUNCTION				
	7-682-547-04	SCREW +P 3X6				
		< CAPACITOR >				
C203	1-124-443-00	ELECT	100uF	20%	10V	
C204	1-104-664-11	ELECT	47uF	20%	10V	
C205	1-101-005-21	CERAMIC	0.02uF	5%	50V	
C206	1-124-443-00	ELECT	100uF	20%	10V	
C207	1-104-664-11	ELECT	47uF	20%	10V	
C208	1-101-005-21	CERAMIC	0.02uF	5%	50V	
C209	1-124-443-00	ELECT	100uF	20%	10V	
C210	1-104-664-11	ELECT	47uF	20%	10V	
C211	1-101-005-21	CERAMIC	0.02uF	5%	50V	
C215	1-124-907-11	ELECT	10uF	20%	50V	
C224	1-124-443-00	ELECT	100uF	20%	10V	
C225	1-104-664-11	ELECT	47uF	20%	10V	
C226	1-124-903-11	ELECT	1uF	20%	50V	
C228	1-130-493-00	MYLAR	0.068uF	5%	50V	
C230	1-124-903-11	ELECT	1uF	20%	50V	
C231	1-130-493-00	MYLAR	0.068uF	5%	50V	
C232	1-124-903-11	ELECT	1uF	20%	50V	
C233	1-124-903-11	ELECT	1uF	20%	50V	
C234	1-124-903-11	ELECT	1uF	20%	50V	
C235	1-124-903-11	ELECT	1uF	20%	50V	
C236	1-124-906-11	ELECT	4.7uF	20%	50V	
C237	1-104-664-11	ELECT	47uF	20%	10V	
C239	1-130-489-00	MYLAR	0.033uF	5%	50V	

Ref. No.	Part No.	Description			Remark
C240	1-124-906-11	ELECT	4.7uF	20%	50V
C242	1-104-664-11	ELECT	47uF	20%	10V
C243	1-124-906-11	ELECT	4.7uF	20%	50V
C244	1-104-664-11	ELECT	47uF	20%	10V
C245	1-104-664-11	ELECT	47uF	20%	10V
C246	1-130-489-00	MYLAR	0.033uF	5%	50V
C247	1-124-906-11	ELECT	4.7uF	20%	50V
C248	1-102-106-21	CERAMIC	100PF	5%	50V
C249	1-102-106-21	CERAMIC	100PF	5%	50V
C250	1-124-118-11	ELECT	220uF	20%	16V
C252	1-104-664-11	ELECT	47uF	20%	10V
C253	1-124-443-00	ELECT	100uF	20%	10V
C254	1-130-495-00	MYLAR	0.1uF	5%	50V
C255	1-124-555-11	ELECT	1000uF	20%	16V
C256	1-124-563-11	ELECT	2200uF	20%	25V
C257	1-124-443-00	ELECT	100uF	20%	10V
C258	1-130-495-00	MYLAR	0.1uF	5%	50V
C259	1-124-555-11	ELECT	1000uF	20%	16V
C262	1-104-664-11	ELECT	47uF	20%	10V
C263	1-102-106-21	CERAMIC	100PF	5%	50V
C264	1-102-106-21	CERAMIC	100PF	5%	50V
C265	1-124-906-11	ELECT	4.7uF	20%	50V
C266	1-124-472-11	ELECT	470uF	20%	10V
C267	1-101-005-21	CERAMIC	0.02uF	5%	50V
C268	1-124-444-11	ELECT	220uF	20%	16V
C269	1-101-005-21	CERAMIC	0.02uF	5%	50V
C270	1-104-664-11	ELECT	47uF	20%	10V
C271	1-101-005-21	CERAMIC	0.02uF	5%	50V
C272	1-101-005-21	CERAMIC	0.02uF	5%	50V
C275	1-101-005-21	CERAMIC	0.02uF	5%	50V
C276	1-102-108-21	CERAMIC	150PF	5%	50V
C277	1-102-108-21	CERAMIC	150PF	5%	50V
C278	1-101-005-21	CERAMIC	0.02uF	5%	50V
C279	1-101-005-21	CERAMIC	0.02uF	5%	50V
C280	1-101-005-21	CERAMIC	0.02uF	5%	50V
C281	1-124-472-11	ELECT	470uF	20%	10V
C283	1-104-664-11	ELECT	47uF	20%	10V
C284	1-104-664-11	ELECT	47uF	20%	10V
C285	1-101-005-21	CERAMIC	0.02uF	5%	50V
		< CONNECTOR >			
* CN202	1-778-881-11	PIN, CONNECTOR 5P			
* CN203	1-778-842-11	PIN, CONNECTOR 2P			
* CN206	1-778-849-11	PIN, CONNECTOR 2P			
		< DIODE >			
D201	8-719-055-76	DIODE 1N4148			
D203	8-719-055-76	DIODE 1N4148			

Ref. No.	Part No.	Description	Remark
D204	8-719-055-76	DIODE 1N4148	
D205	8-719-110-09	DIODE RD8.2ES-B3	
D206	8-719-055-76	DIODE 1N4148	
D207	8-719-055-76	DIODE 1N4148	
D208	8-719-109-90	DIODE RD5.6ESB3	
D209	8-719-109-90	DIODE RD5.6ESB3	
D210	8-719-109-90	DIODE RD5.6ESB3	
D212	8-719-055-76	DIODE 1N4148	
D213	8-719-110-09	DIODE RD8.2ES-B3	
		< FERRITE BEAD >	
FB201	1-412-911-11	INDUCTOR	
FB202	1-412-911-11	INDUCTOR	
		< IC >	
IC201	8-759-145-58	IC uPC4558C	
IC202	8-759-820-22	IC LA4597	
		< COIL >	
L204	1-412-911-11	INDUCTOR	
L205	1-412-911-11	INDUCTOR	
		< LED >	
LED1	8-719-812-31	LED TLR123 (OPR/BATT)	
		< TRANSISTOR >	
Q201	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q202	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q203	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q208	8-729-178-59	TRANSISTOR 2SC2785	
Q209	8-729-178-59	TRANSISTOR 2SC2785	
Q210	8-729-178-59	TRANSISTOR 2SC2785	
Q211	8-729-178-59	TRANSISTOR 2SC2785	
Q212	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q213	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q215	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q216	8-729-313-82	TRANSISTOR 2SD1138-C	
Q217	8-729-178-59	TRANSISTOR 2SC2785	
		< RESISTOR >	
R201	1-249-427-11	CARBON 6.8K 5%	1/4W
R202	1-247-827-11	CARBON 680 5%	1/4W
R203	1-249-429-11	CARBON 10K 5%	1/4W
R204	1-249-427-11	CARBON 6.8K 5%	1/4W
R205	1-247-827-11	CARBON 680 5%	1/4W
R206	1-249-429-11	CARBON 10K 5%	1/4W
R207	1-249-393-11	CARBON 10 5%	1/4W

MAIN **MD**

Ref. No.	Part No.	Description				Remark
R208	1-247-815-00	CARBON	220	5%	1/4W	
R209	1-249-393-11	CARBON	10	5%	1/4W	
R210	1-247-815-00	CARBON	220	5%	1/4W	
R211	1-249-393-11	CARBON	10	5%	1/4W	
R212	1-247-815-00	CARBON	220	5%	1/4W	
R213	1-247-871-11	CARBON	47K	5%	1/4W	
R219	1-249-429-11	CARBON	10K	5%	1/4W	
R220	1-247-903-00	CARBON	1M	5%	1/4W	
R227	1-249-417-11	CARBON	1K	5%	1/4W	
R232	1-249-426-11	CARBON	5.6K	5%	1/4W	
R233	1-247-871-11	CARBON	47K	5%	1/4W	
R234	1-249-426-11	CARBON	5.6K	5%	1/4W	
R235	1-247-863-11	CARBON	22K	5%	1/4W	
R236	1-247-871-11	CARBON	47K	5%	1/4W	
R237	1-247-839-11	CARBON	2.2K	5%	1/4W	
R238	1-247-807-11	CARBON	100	5%	1/4W	
R239	1-249-429-11	CARBON	10K	5%	1/4W	
R240	1-249-429-11	CARBON	10K	5%	1/4W	
R241	1-247-871-11	CARBON	47K	5%	1/4W	
R242	1-247-871-11	CARBON	47K	5%	1/4W	
R243	1-249-417-11	CARBON	1K	5%	1/4W	
R244	1-249-417-11	CARBON	1K	5%	1/4W	
R245	1-249-417-11	CARBON	1K	5%	1/4W	
R246	1-247-833-11	CARBON	1.2K	5%	1/4W	
R247	1-247-879-11	CARBON	100K	5%	1/4W	
R248	1-249-417-11	CARBON	1K	5%	1/4W	
R249	1-247-833-11	CARBON	1.2K	5%	1/4W	
R250	1-247-879-11	CARBON	100K	5%	1/4W	
R251	1-249-417-11	CARBON	1K	5%	1/4W	
R252	1-247-897-11	CARBON	560K	5%	1/4W	
R253	1-247-843-11	CARBON	3.3K	5%	1/4W	
R254	1-249-417-11	CARBON	1K	5%	1/4W	
R255	1-247-839-11	CARBON	2.2K	5%	1/4W	
R256	1-249-417-11	CARBON	1K	5%	1/4W	
R257	1-247-897-11	CARBON	560K	5%	1/4W	
R258	1-247-843-11	CARBON	3.3K	5%	1/4W	
R259	1-247-839-11	CARBON	2.2K	5%	1/4W	
R260	1-249-417-11	CARBON	1K	5%	1/4W	
R261	1-249-429-11	CARBON	10K	5%	1/4W	
R262	1-247-827-11	CARBON	680	5%	1/4W	
R263	1-247-839-11	CARBON	2.2K	5%	1/4W	
R265	1-249-426-11	CARBON	5.6K	5%	1/4W	
R267	1-249-429-11	CARBON	10K	5%	1/4W	
R268	1-247-839-11	CARBON	2.2K	5%	1/4W	
R269	1-247-827-11	CARBON	680	5%	1/4W	
R270	1-247-837-11	CARBON	1.8K	5%	1/4W	
R271	1-249-426-11	CARBON	5.6K	5%	1/4W	
R274	1-247-871-11	CARBON	47K	5%	1/4W	
R275	1-247-863-11	CARBON	22K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R276	1-247-847-11	CARBON	4.7K	5%	1/4W	
R277	1-247-847-11	CARBON	4.7K	5%	1/4W	
R278	1-249-417-11	CARBON	1K	5%	1/4W	
R279	1-249-417-11	CARBON	1K	5%	1/4W	
R280	1-247-871-11	CARBON	47K	5%	1/4W	
R281	1-249-429-11	CARBON	10K	5%	1/4W	
R285	1-247-847-11	CARBON	4.7K	5%	1/4W	
R286	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R287	1-212-934-00	FUSIBLE	1	5%	1/2W	F
R288	1-247-815-00	CARBON	220	5%	1/4W	
R289	1-247-823-11	CARBON	470	5%	1/4W	
⚠R290	1-212-942-11	FUSIBLE	2.2	5%	1/2W	F
R291	1-247-815-00	CARBON	220	5%	1/4W	
R292	1-249-453-11	CARBON	3.3	5%	1/4W	
R293	1-249-453-11	CARBON	3.3	5%	1/4W	
R294	1-247-807-11	CARBON	100	5%	1/4W	
R295	1-247-807-11	CARBON	100	5%	1/4W	
R296	1-247-863-11	CARBON	22K	5%	1/4W	
R297	1-247-863-11	CARBON	22K	5%	1/4W	
R298	1-249-429-11	CARBON	10K	5%	1/4W	
R299	1-249-429-11	CARBON	10K	5%	1/4W	
R300	1-249-429-11	CARBON	10K	5%	1/4W	
R301	1-249-403-11	CARBON	68	5%	1/4W	
R302	1-249-403-11	CARBON	68	5%	1/4W	
R305	1-249-404-11	CARBON	82	5%	1/4W	
R307	1-249-429-11	CARBON	10K	5%	1/4W	
R308	1-249-429-11	CARBON	10K	5%	1/4W	
R317	1-249-429-11	CARBON	10K	5%	1/4W	

< SWITCH >

SW201	1-762-865-11	SWITCH, LEVER (FUNCTION)
SW202	1-762-862-11	SWITCH, PUSH (MEGA BASS)

< JACK >

SW203	1-568-593-61	JACK 1P (🎧)

< VARIABLE RESISTOR >

VR201	1-225-364-11	RES, VAR, CARBON 20K/20K (VOLUME)
VR202	1-225-364-11	RES, VAR, CARBON 20K/20K (TONE)

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*	A-3306-210-A	MD BOARD, COMPLETE

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< CAPACITOR >

C401	1-162-293-31	CERAMIC	820PF	10%	50V
C402	1-162-290-31	CERAMIC	470PF	10%	50V
C403	1-162-293-31	CERAMIC	820PF	10%	50V
C404	1-162-288-31	CERAMIC	330PF	10%	50V

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurite. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C406	1-104-664-11	ELECT	47uF	20%	10V
C407	1-130-482-11	FILM	0.018uF	5%	50V
C408	1-124-464-11	ELECT	0.22uF	20%	50V
C409	1-124-905-11	ELECT	3.3uF	20%	50V
C410	1-124-472-11	ELECT	470uF	20%	10V
C411	1-104-664-11	ELECT	47uF	20%	10V
C412	1-124-443-00	ELECT	100uF	20%	10V
C413	1-162-293-31	CERAMIC	820PF	10%	50V
C414	1-162-293-31	CERAMIC	820PF	10%	50V
C415	1-162-282-31	CERAMIC	100PF	10%	50V
C416	1-162-282-31	CERAMIC	100PF	10%	50V
C418	1-104-664-11	ELECT	47uF	20%	10V
C419	1-126-961-11	ELECT	2.2uF	20%	50V
C420	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C421	1-124-905-11	ELECT	3.3uF	20%	50V
C422	1-162-293-31	CERAMIC	820PF	10%	50V
C423	1-162-282-31	CERAMIC	100PF	10%	50V
C424	1-162-282-31	CERAMIC	100PF	10%	50V
C425	1-104-664-11	ELECT	47uF	20%	10V
C427	1-130-482-11	FILM	0.018uF	5%	50V
C428	1-124-464-11	ELECT	0.22uF	20%	50V
C429	1-124-903-11	ELECT	1uF	20%	50V
C430	1-124-905-11	ELECT	3.3uF	20%	50V
C431	1-104-664-11	ELECT	47uF	20%	10V
C432	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C433	1-124-905-11	ELECT	3.3uF	20%	50V
C434	1-126-233-11	ELECT	22uF	20%	50V
C435	1-162-294-31	CERAMIC	0.001uF	10%	50V
C436	1-162-282-31	CERAMIC	100PF	10%	50V
C437	1-162-290-31	CERAMIC	470PF	10%	50V
C438	1-162-282-31	CERAMIC	100PF	10%	50V
C439	1-162-306-11	CERAMIC	0.01uF	30%	16V
C440	1-130-509-11	FILM	0.0027uF	10%	50V
C441	1-130-522-11	FILM	0.033uF	10%	50V
C442	1-102-212-11	CERAMIC	820PF	10%	50V
C443	1-124-443-00	ELECT	100uF	20%	10V
C444	1-162-288-31	CERAMIC	330PF	10%	50V
C445	1-162-293-31	CERAMIC	820PF	10%	50V
C446	1-162-290-31	CERAMIC	470PF	10%	50V
C447	1-102-212-11	CERAMIC	820PF	10%	50V
C448	1-124-472-11	ELECT	470uF	20%	10V
C449	1-101-005-21	CERAMIC	0.02uF	5%	50V
C450	1-124-443-00	ELECT	100uF	20%	10V
C451	1-101-005-21	CERAMIC	0.02uF	5%	50V
C452	1-101-006-21	CERAMIC	0.04uF	5%	50V
C453	1-124-475-11	ELECT	470uF	20%	16V
C454	1-162-306-11	CERAMIC	0.01uF	30%	16V
C455	1-162-282-31	CERAMIC	100PF	10%	50V
C456	1-162-282-31	CERAMIC	100PF	10%	50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN401	1-778-848-11	PIN, CONNECTOR 15P			
* CN402	1-778-847-11	PIN, CONNECTOR 10P			
* CN403	1-778-844-11	PIN, CONNECTOR 4P			
* CN404	1-778-844-11	PIN, CONNECTOR 4P			
* CN405	1-778-844-11	PIN, CONNECTOR 4P			
		< DIODE >			
D401	8-719-055-76	DIODE 1N4148			
D402	8-719-055-76	DIODE 1N4148			
D403	8-719-110-13	DIODE RD9. 1ESB2			
		< IC >			
IC401	8-759-242-58	IC TA8189N			
		< COIL >			
L401	1-410-775-11	COIL, CHOKE 10mH			
L402	1-410-775-11	COIL, CHOKE 10mH			
L403	1-415-976-11	COIL, CHOKE 1.5mH			
L404	1-415-975-11	COIL, CHOKE 560uH			
		< TRANSISTOR >			
Q401	8-729-178-59	TRANSISTOR 2SC2785			
Q402	8-729-178-59	TRANSISTOR 2SC2785			
Q403	8-729-178-59	TRANSISTOR 2SC2785			
Q404	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q405	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q406	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q407	8-729-178-59	TRANSISTOR 2SC2785			
Q408	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q409	8-729-201-53	TRANSISTOR 2SA1015-GR			
Q410	8-729-178-59	TRANSISTOR 2SC2785			
Q411	8-729-178-59	TRANSISTOR 2SC2785			
Q412	8-729-178-59	TRANSISTOR 2SC2785			
Q413	8-729-178-59	TRANSISTOR 2SC2785			
		< RESISTOR >			
R401	1-247-887-00	CARBON	220K	5%	1/4W
R402	1-249-432-11	CARBON	18K	5%	1/4W
R403	1-247-887-00	CARBON	220K	5%	1/4W
R404	1-247-807-11	CARBON	100	5%	1/4W
R405	1-249-427-11	CARBON	6.8K	5%	1/4W
R406	1-249-427-11	CARBON	6.8K	5%	1/4W
R407	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-249-429-11	CARBON	10K	5%	1/4W
R409	1-247-807-11	CARBON	100	5%	1/4W
R410	1-247-885-11	CARBON	180K	5%	1/4W
R411	1-249-429-11	CARBON	10K	5%	1/4W

MD | SP CONNECTOR | TUNER

Ref. No.	Part No.	Description			Remark
R412	1-247-891-11	CARBON	330K	5%	1/4W
R413	1-249-407-11	CARBON	150	5%	1/4W
R414	1-249-437-11	CARBON	47K	5%	1/4W
R415	1-249-437-11	CARBON	47K	5%	1/4W
R416	1-249-429-11	CARBON	10K	5%	1/4W
R417	1-249-429-11	CARBON	10K	5%	1/4W
R418	1-249-429-11	CARBON	10K	5%	1/4W
R419	1-249-417-11	CARBON	1K	5%	1/4W
R420	1-249-417-11	CARBON	1K	5%	1/4W
R421	1-247-885-11	CARBON	180K	5%	1/4W
R422	1-247-863-11	CARBON	22K	5%	1/4W
R423	1-249-432-11	CARBON	18K	5%	1/4W
R425	1-249-417-11	CARBON	1K	5%	1/4W
R426	1-249-417-11	CARBON	1K	5%	1/4W
R427	1-247-807-11	CARBON	100	5%	1/4W
R428	1-247-885-11	CARBON	180K	5%	1/4W
R429	1-249-427-11	CARBON	6.8K	5%	1/4W
R430	1-249-427-11	CARBON	6.8K	5%	1/4W
R431	1-249-429-11	CARBON	10K	5%	1/4W
R432	1-249-429-11	CARBON	10K	5%	1/4W
R433	1-249-437-11	CARBON	47K	5%	1/4W
R434	1-247-885-11	CARBON	180K	5%	1/4W
R435	1-249-407-11	CARBON	150	5%	1/4W
R436	1-247-891-11	CARBON	330K	5%	1/4W
R437	1-247-903-00	CARBON	1M	5%	1/4W
R438	1-247-827-11	CARBON	680	5%	1/4W
R439	1-247-827-11	CARBON	680	5%	1/4W
R440	1-249-432-11	CARBON	18K	5%	1/4W
R441	1-249-429-11	CARBON	10K	5%	1/4W
R442	1-249-429-11	CARBON	10K	5%	1/4W
R443	1-249-437-11	CARBON	47K	5%	1/4W
R444	1-249-417-11	CARBON	1K	5%	1/4W
R446	1-247-865-11	CARBON	27K	5%	1/4W
R448	1-247-865-11	CARBON	27K	5%	1/4W
R449	1-247-865-11	CARBON	27K	5%	1/4W
R450	1-249-439-11	CARBON	68K	5%	1/4W
R451	1-247-799-11	CARBON	47	5%	1/4W
R452	1-249-403-11	CARBON	68	5%	1/4W
R453	1-249-432-11	CARBON	18K	5%	1/4W
R454	1-247-887-00	CARBON	220K	5%	1/4W
R455	1-247-887-00	CARBON	220K	5%	1/4W
⚠R456	1-212-950-11	FUSIBLE	4.7	5%	1/2W F
R457	1-247-815-11	CARBON	220	5%	1/4W
R458	1-249-429-11	CARBON	10K	5%	1/4W
R459	1-249-429-11	CARBON	10K	5%	1/4W
R460	1-249-424-11	CARBON	3.9K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R461	1-249-429-11	CARBON	10K	5%	1/4W
R462	1-249-429-11	CARBON	10K	5%	1/4W
R464	1-249-437-11	CARBON	47K	5%	1/4W
R465	1-249-437-11	CARBON	47K	5%	1/4W
R466	1-249-437-11	CARBON	47K	5%	1/4W
R467	1-249-437-11	CARBON	47K	5%	1/4W
R468	1-249-429-11	CARBON	10K	5%	1/4W
R469	1-249-429-11	CARBON	10K	5%	1/4W
R470	1-249-429-11	CARBON	10K	5%	1/4W
R471	1-249-437-11	CARBON	47K	5%	1/4W
R472	1-247-807-11	CARBON	100	5%	1/4W
		< SWITCH >			
SW401	1-762-940-11	SWITCH, PUSH (REC/PB)			
		< VARIABLE RESISTOR >			
VR401	1-225-376-11	RES, ADJ, CARBON 1K			

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*	1-662-242-11	SP CONNECTOR BOARD			
		**********			
		< CONNECTOR >			
CN2	1-778-879-11	PIN, CONNECTOR 3P			

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*	A-3306-207-A	TUNER BOARD, COMPLETE			
		**********			
	3-007-680-01	GEAR, TUNING CAPACITOR			
	7-621-770-87	SCREW +P 2.6X5			
		< BPF >			
BPF101	1-233-815-11	FILTER, BAND PASS			
		< CAPACITOR >			
C101	1-164-038-11	CERAMIC	2PF	0.25PF	50V
C102	1-130-471-11	MYLAR	0.01uF	5%	50V
C103	1-164-054-11	CERAMIC	22PF	5%	50V
C104	1-124-443-00	ELECT	100uF	20%	10V
C105	1-102-074-11	CERAMIC	0.001uF	10%	50V
C106	1-102-074-11	CERAMIC	0.001uF	10%	50V
C107	1-164-054-11	CERAMIC	22PF	5%	50V
C108	1-164-040-11	CERAMIC	4PF	0.25PF	50V
C110	1-126-961-11	ELECT	2.2uF	20%	50V
C111	1-124-443-00	ELECT	100uF	20%	10V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C112	1-124-902-00	ELECT	0.47uF	20%	50V
C113	1-126-963-11	ELECT	4.7uF	20%	50V
C114	1-124-903-11	ELECT	1uF	20%	50V
C115	1-130-471-11	MYLAR	0.01uF	5%	50V
C116	1-130-471-11	MYLAR	0.01uF	5%	50V
C117	1-126-963-11	ELECT	4.7uF	20%	50V
C118	1-124-903-11	ELECT	1uF	20%	50V
C119	1-104-664-11	ELECT	47uF	20%	10V
C120	1-124-443-00	ELECT	100uF	20%	10V
C121	1-130-471-11	MYLAR	0.01uF	5%	50V
C122	1-130-485-11	MYLAR	0.015uF	5%	50V
C123	1-130-485-11	MYLAR	0.015uF	5%	50V
C129	1-126-956-11	CERAMIC	0.1uF	20%	50V
C133	1-124-902-00	ELECT	0.47uF	20%	50V
C134	1-124-902-00	ELECT	0.47uF	20%	50V
C135	1-162-282-31	CERAMIC	100PF	5%	50V
C137	1-164-043-11	CERAMIC	7PF	0.5PF	50V
C140	1-126-956-11	CERAMIC	0.1uF	20%	50V
		< FILTER >			
CF101	1-233-659-12	FILTER, CERAMIC			
CF103	1-760-238-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN101	1-778-845-11	PIN, CONNECTOR 6P			
		< VARIABLE CAPACITOR >			
CT101	1-151-696-11	CAP, VAR			
CV101	1-151-696-11	CAP, VAR (TUNING)			
		< DIODE >			
D101	8-719-055-76	DIODE 1N4148			
D102	8-719-055-76	DIODE 1N4148			
		< IC >			
IC101	8-752-050-20	IC CXA1238S			
		< COIL >			
L101	1-501-875-11	ANTENNA, FERRITE-ROD (AM)			
L102	1-415-987-11	COIL (FM RF)			
L103	1-415-988-11	COIL (FM OSC)			
L104	1-415-928-11	COIL (AM OSC)			
		< TRANSISTOR >			
Q101	8-729-178-59	TRANSISTOR 2SC2785			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-247-847-11	CARBON	4.7K	5%	1/4W
R102	1-247-807-11	CARBON	100	5%	1/4W
R103	1-247-855-11	CARBON	10K	5%	1/4W
R104	1-247-887-00	CARBON	220K	5%	1/4W
R105	1-247-839-11	CARBON	2.2K	5%	1/4W
R106	1-247-887-00	CARBON	220K	5%	1/4W
R107	1-247-879-11	CARBON	100K	5%	1/4W
R108	1-247-839-11	CARBON	2.2K	5%	1/4W
R109	1-249-411-11	CARBON	330	5%	1/4W
R110	1-247-815-11	CARBON	220	5%	1/4W
R111	1-249-427-11	CARBON	6.8K	5%	1/4W
R112	1-249-427-11	CARBON	6.8K	5%	1/4W
R113	1-247-871-11	CARBON	47K	5%	1/4W
R114	1-247-855-11	CARBON	10K	5%	1/4W
		< SWITCH >			
SW101	1-762-864-11	SWITCH, LEVER (BAND)			
		< ENCAPSULATED COMPONENT >			
T101	1-239-724-11	ENCAPSULATED COMPONENT			
		< VARIABLE RESISTOR >			
VR101	1-225-376-11	RES, ADJ, CARBON 20K			

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
64	1-452-531-11	MAGNET	
67	1-776-184-11	WIRE (FLAT TYPE) (16 CORE)	
⚠151	8-848-367-11	PICK-UP, OPTICAL KSS-213B/K-N	
ANT1	1-501-874-11	ANTENNA, TELESCOPIC	
⚠F301	1-576-104-11	FUSE (2A)	
HE401	1-500-139-11	HEAD (ERASE) (DECK B)	
HP401	1-500-138-11	HEAD (PLAYBACK) (DECK A)	
HRP401	1-500-138-11	HEAD (RECORD/PLAYBACK) (DECK B)	
⚠J1	1-251-474-11	INLET, AC (~ AC IN)	
M401	X-3369-087-1	MOTOR ASSY (REEL/CAPSTAN)	
M701	X-2625-769-1	MOTOR GEAR ASSY (SLED)	
M702	X-2625-770-1	MOTOR ASSY, SPINDLE	
SP201	1-504-736-12	SPEAKER (10CM) (L-CH)	
SP202	1-504-736-12	SPEAKER (10CM) (R-CH)	
SW204	1-692-960-11	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)	
SW402	1-762-022-11	SWITCH, LEAF (FF/REW) (DECK A)	
SW403	1-762-022-11	SWITCH, LEAF (FF/REW) (DECK B)	
SW404	1-762-023-11	SWITCH, LEAF (PLAYBACK) (DECK A)	
SW405	1-762-023-11	SWITCH, LEAF (REC) (DECK B)	
SW406	1-762-024-11	SWITCH, LEAF (DUBBING) (DECK A)	
⚠T301	1-429-914-11	TRANSFORMER, POWER (US)	
⚠T301	1-431-133-11	TRANSFORMER, POWER (Canadian)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-690-952-12	CORD, POWER (Canadian)	
⚠	1-782-126-11	CORD, POWER (US)	
*	3-007-362-01	INDIVIDUAL CARTON (US)	
*	3-007-363-01	INDIVIDUAL CARTON (Canadian)	
*	3-007-955-01	CUSHION (L)	
*	3-007-956-01	CUSHION (R)	
	3-858-169-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-858-169-21	MANUAL, INSTRUCTION (FRENCH) (Canadian)	
**********			

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-682-547-04	SCREW +P 3X6	
#2	7-688-003-01	W3, SMALL	
#3	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#4	7-685-168-11	SCREW +PTP 4X40 TYPE2 NON-SLIT	
#5	7-685-135-19	SCREW +P 2.6X10	
#6	7-621-255-15	SCREW +P 2X3	
#7	7-685-647-79	SCREW, TAPPING +BV 3X10	
#8	7-621-770-67	SCREW +B 2.6X6	
#9	7-623-954-01	WASHER 3.0, FIBER	
#10	7-685-148-01	SCREW +P 3X12 TYPE1	

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MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	1996.09	New
1.1	2001.12	Corrected part No. of IC703 (ECN-RC801249)
1.2	2005.09	Change of part No. of Power Cord (SPM-05132)